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EDITED BY

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JOSEPH F. EDWARDS, M.D.

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I. ANATOMY, PHYSIOLOGY AND PATHOLOGY.

Curious Lesion of Femur—Possible Spinal Arthropathy With Hematoma.

To the New York Pathological Society (*Med. Record*, Oct. 27, 1883), Dr. Wackerhagen presented a specimen with the following history: On September 17th he was called in consultation to see Captain W——, who was suffering from an affection of the left knee-joint. The patient, aged fifty-two years, was born in the State of New York. He was greatly prostrated, emaciated, and anæmic, with loss of appetite; temperature, 102½° F.; pulse, 120 and feeble. The knee was flexed, the joint and surrounding tissues were greatly swollen, and appeared to be distended by some semi-fluid substance. He did not complain of severe pain unless pressure was made over the joint, or an attempt at motion was made, when his suffering was greatly increased. Upon paracentesis of the joint, only a small quantity of very dark-colored blood was discharged. The patient stated that he had always enjoyed good health until about three months prior to the operation, when he complained of pain at the knee-joint, and was treated for rheumatism. The pain was lancinating in character, and would occasionally disappear for a week at a time. A month later, he first noticed a slight swelling of the joint, which commenced to increase very rapidly three weeks before the operation. There was no family history of cancer or tuberculosis. The diagnosis was osteo-sarcoma, and amputation advised.

The patient having consented to the operation, it was performed on September 19th, at the upper third of the thigh, under strict antiseptic precautions. Esmarch's bandage was applied, and very little blood was lost while ligating the vessels. Present—Drs. Gregory, Rockwell, Anderson, Hallock, and McCary.

The temperature fell after the operation to 100½° F.; pulse, 100, and much improved in quality. The first dressings were not disturbed until the sixth day, when they were changed under the carbolized spray. Union by first intention, excepting a slight discharge of a brownish color through the inner drainage-tube, which gradually disappeared. Temperature continued to fall to normal, and did not at any time after the operation go above 99½° F. The patient's appetite returned on the day following, and he is now in excellent health, and ready to return to his home in Ulster County.

The specimen included three inches of the upper end of the tibia and fibula, the lower half of the femur, the muscles and external integuments of the part.

Upon section, immediately after the operation, the muscles, particularly the adductors of the thigh, appeared glazed, flabby, and infiltrated with serum. They were abnormally dark in color, and lacked the characteristics of healthy muscular tissue.

Occupying the cavity left by the rarifying bone was a recent blood-clot, quite firm, of uniform color and consistence throughout; while the absence of pus or other inflammatory products was a marked feature.

The posterior surface of the patella was softened in the centre and eroded at its lower border. The articular surface was roughened and showed evidence of beginning changes.

The usual layer of compact tissue at the head of the tibia was wanting, and the cancellous structure, which was bright yellow from the large amount of infiltrated fat and the absence of the coloring matters of the blood, extended to the articular cartilage. The edges of the semilunar cartilage were ragged, and the articular cartilage covering the head of the tibia was perforated at one point and excavation beginning.

The medullary canal of the femur, from the point of the amputation downward, was enlarged, and toward the lower extremity cancellated tissue encroached upon the compact shaft until this was entirely replaced.

Then the cancellous bone itself disappeared, the space which had been occupied by the bone, except a part of the external condyle, being filled with the clot of blood referred to above.

A thin shell of articular cartilage remained at the seat of the inner condyle.

The Bacillus Tuberculosis as an Entozoon.

The *Brit. Med. Jour., Nov.* 3, 1883, says there is a disease of the lamb, which has, at various times, caused very serious losses to sheep-farmers both in this country and in the colonies. It is due to the presence in the bronchi of numerous individuals of a species of nematode worm, the *Strongylus filaria;* a very closely allied species, the *S. micrurus*, infests the bronchi of the calf. The disease is commonly known as the husk or hoose, and consists essentially in the symptoms set up by the presence of large masses of these worms in the air-passages complicated by bronchitis. The very peculiar habitat of the parasite renders it possible, by means of inhalations, to bring parasiticides into contact with it; this means of arresting the disease has been resorted to both in this country, and, as we learn from a paper read before the Medical Society of Victoria, and published in the *Australian Medical Journal*, in Australia also, in both cases with complete success. It appears from this paper, which was read by Mr. West Ford, that Mr. Knight of Kozonzah, who is a large sheep-owner, and had annually lost large numbers by this "lamb-disease," seriously turned his attention about four years ago to its systematic treatment by antiseptic inhalations. The plan he employs is to drive a hundred or more lambs into an air-tight room into which a constant current of air, previously passed under pressure through carbolic acid, is forced. The strength used is stated to be one in ten, and the lambs are kept in the room for one or two hours at a time; it is said that most of them are thus cured at once. We cannot go with Mr. Ford in his deduction from the success of this treatment in the parasitic bronchitis of lambs, that a similar treatment of phthisis in man may be expected, with "the greatest confidence," to be "equally successful;" he founds this belief on the assumption that Dr. Koch has demonstrated, "to a certainty, that that fell disease is due to the presence of an entozoon—the bacillus." Koch's researches, however, stop a good deal short of any such demonstration. and to speak of the bacillus tuberculosis as an "entozoon," may be correct, but is yet a little misleading. We know that the bacillus occurs in all or most cases of phthisis, that is to say, in destructive lung-disease of whatever origin; that it is found chiefly in the sputum, and in the walls of cavities, but in very small numbers in the tissues themselves, and that it can only increase and multiply at a temperature of about 100° Fahr., a temperature seldom, if ever, reached in dwelling rooms in temperate climates where phthisis is most prevalent. No doubt it is highly probable that the bacillus does play some *rôle* more or less important in the development of tuberculosis, but beyond this it seems at present impossible to go. It may, by its entrance into, and development in the tissues, be the direct determining cause of the lesions of tuberculosis; on the other hand, it may be concerned only in the final destructive process, assisting by its growth in the disintegration and removal of the diseased tissues. Very much yet remains to be done before the exact importance of this bacillus can be appreciated. Meanwhile, we would ask whether it is advisable to speak of these microorganism as entozoa? If so, it will be necessary to make two grand divisions of the entozoa, for mycology is becoming, to an extent entirely unforseen a few years ago, a complicated and very special subject, in dealing with which an inexperienced person is very likely to fall into grievous error. To compare a nematode worm an inch long with the bacillus tuberculosis, and to assume that what is beneficial to an animal infested with the one, must also cure an individual in whom the other exists, is to make a very large assumption, which may or may not be true in this particular case, but is certainly a bad precedent. Of course, we are not arguing against the use of antiseptic inhalations in phthisis; their beneficial action has been long known, and was fully established before Koch's bacillus was ever heard of, and, moreover, may be fully accounted for without calling up this *deus ex machinâ.*

Syphilis or Tubercle?

The *Med. Times and Gaz.*, November 3, 1883, says: A question of more than pathological interest was, perhaps unintentionally, brought prominently before the members of the Clinical Society at its last meeting. The proposition may be briefly stated thus: Are we justified, in the present state of pathological knowledge, in pronouncing certain lesions of the brain and meninges to be syphilitic, from their anatomical characteristics alone? The occurrence of small tumors, varying in size and situation, but usually scattered about the base of the brain, is familiar to most pathologists, and these, when occurring in cases of undoubted syphilis, have been universally recognized and described as syphilitic lesions. Other tumours not unlike them are, however, found in association with miliary tubercle, and these have, in consequence, been held to be tubercular in character, and, in fact, to have been foci of auto-infection for the acute disease. But, regarded from the standpoint of morbid anatomy only, these two varieties of tumour appear identical. Perhaps, with the improved and daily improving means of identification, it will be possible to differentiate the forms of bacteria which respectively inhabit them, and so to tell with certainty the tubercular from the syphilitic nodule. We imagine, however, that most of our readers would feel disposed to agree with Sir Andrew Clark in his strongly expressed opinion that a positive diagnosis of such lesions is not warranted from the anatomical appearances alone, but can only be made by associating these appearances with the clinical history of the case. This opinion, it is true, is not universally accepted, and some pathologists feel themselves as fully justified in diagnosing the syphilitic nature of anatomical changes from their appearance alone, as are the large majority of physicians in recognizing syphilitic changes in the skin and other epidermal structures on similar grounds. The diagnosis of syphilis as a cause of anomalous rashes on the skin is made every day, without a tittle of evidence being adduced in its favor, beyond the appearance of the rash itself and the probability of its disappearance after specific treatment. That a vast amount of moral injustice is thus done to the living, and, in case of post-mortem appearances, to the memory of the dead, is obvious, and for that reason, in addition to the scientific interest of the question, the subject deserves more careful investigation at the hands of pathologists than has hitherto been the case. That certain definite lesions, not differing anatomically from one another, can be respectively associated with syphilis and with miliary tubercle, and may also occur with complete independence of either of these, seems to suggest the probability that a third cause must be at work, perhaps upon the vascular supply of the parts affected, of which we are at present in complete ignorance.

Gartner's Ducts in Women.

The *Med. Times and Gaz.* Oct 20, 1883, says: In a paper published in a recent number of the *Archiv für Gynäkologie*, Dr. J. Kocks, of Bonn, describes certain fine canals which he has been able to find in about 80 per cent. of those women in whom he has searched for them, and which he believes to be the remains of Gartner's ducts. These canals open close to the posterior margin of the meatus urinarius, and a probe of one millimetre (about one twenty-fifth of an inch) in thickness can be passed into them for a distance of from half a centimetre to two centimetres (about one-fifth to four-fifths of an inch). Their orifices are often situated a little distance behind the urethral orifice, so that the canal has to be held open in order to see them; but generally, says Kocks, the openings are to be found at the summit of the little lips of mucous membrane which bound the posterior part of the meatus to right and left. They are generally both present, but one may be absent. Dr. Kocks compares their appearance to that of the lacrimal puncta. They run in the urethro-vaginal septum, and end blindly. They are found most easily in young adults. In the newly-born they are relatively larger, but absolutely smaller than in adults. In old women they become obliterated or lessened in size. Dr. Kocks regards them as the homologues of the ejaculatory ducts in the male. In the following number of the same journal, Professor C. Böhm, of Vienna, writes to say that he, like Kocks, has been able to demonstrate the presence of these ducts; and further, that he has seen cases of acute and chronic inflammation of them. Sometimes this inflammation is but part of a similar process affecting the vagina, vulva, and urethra, but sometimes it exists by itself. In the latter case, owing to the presence of redness and swelling of the meatus, discharge of pus from it, and pain on making water, the disease may be taken for gonorrhœa. From this it is to be diagnosed by everting the margins of the meatus, and noticing that the pus issues from the ducts in question. It is to be cured by applications of solid nitrate of silver to the inflamed ducts. Unless proper diagnosis is made, and this treatment employed, the disease may prove obstinate.

Hydatid Disease of the Femur.

Before the Academy of Medicine in Ireland (*Lancet*, *Sept.* 29, 1883), Dr. COPPINGER presented the specimens and read the report of a case. He observed that hydatid tumors, even in countries where the affection is comparatively common, seemed scarcely ever to invade the bones, and that no instance of the disease occurring in the bones had up to the present been recorded in this country. The patient had been under observation for three years, having been admitted to the Mater Misericordiæ Hospital with a spontaneous fracture of the upper third of the femur, due apparently to its invasion by the parasite. The disease was not diagnosed until Mr. Coppinger had made an attempt to excise the patient's hip-joint and discovered a large cavity in the dilated upper part of the femur containing hydatid cysts and loose pieces of bone studded over with small echinococcus vesicles; these exhibited the characteristic features of echinococcus cyst, etc. The complicated excision was abandoned, but the great trochanter was removed with a saw, and the cavity finally laid open and syringed out with chloride of lime solution. It was then ascertained that the shaft of the femur was firmly connected with its neck by means of the thin walls of the bony tumor, and it was hoped that the disease having been apparently removed the space would fill by granulation from below; it had since become much smaller; but the patient's condition was so unsatisfactory, even after nearly two years' treatment, that another operation would have to be performed for the purpose, if possible, of eradicating the disease. The limb was three inches shorter than its fellow. The man was obliged to have a crutch, being unable to rest his weight upon the limb; and the wound, which was still open, led through a narrow slit in the bone into a cavity in its centre, extending upwards into the neck as well as downwards into the shaft of the femur. Although this cavity was daily washed out with carbolic and boro-glyceride solution, and although all disease was apparently removed, collapsed cysts and shreds of membrane still escaped from it occasionally, proving the peculiar disease caused by the presence of small exogenous cysts in the cancellous tissue of the bone had not yet been eradicated.

The Pathological Changes in Gonorrhœa.

The *Med. Record*, Oct. 20, 1883, says: Professor HAMILTON, of Aberdeen, has had an opportunity to examine microscopically the condition of the urethra in acute gonorrhœa (*The Practitioner*, September, 1883). The epithelium of the urethra is disposed much as in the bronchus, in three strata—the deepest of flat cells, the middle of pear-shaped cells, and the superficial of columnar cells. In acute gonorrhœa the process consists mainly in an exaggerated and irregular proliferation of the deeper strata of cells, the cell-production being so rapid that the discharge contains but few of the fully-developed columnar forms. The denudation of the surface in this process explains the scalding pain on micturition. The secretion of the mucous glands is increased, as in bronchial inflammation. There is also considerable corpuscular infiltration of the mucous membrane, leucocytes being accumulated in the sub-epithelial lymphatic spaces; and although there does not exist an elastic basement membrane, which, according to the author, prevents the escape of these interstitial products on to the free surface in bronchitis, he nevertheless doubts if that occurs here, believing rather that the cellular exudations in the meshes of the mucosa are carried away by the lymph stream. There was not in the specimen any marked congestion of the blood-vessels; and the trabecular tissue of the penis was not abnormal unless accumulated leucocytes in the cavernous spaces may be so considered. Strictures are produced in chronic urethritis probably by the submucous tissue becoming cirrhosed and contracting upon the lumen; the absence of "fixed joints" indicating the difference in results from chronic bronchitis when the tubes are dilated. The tubules of the testicles and of the epididymis from the same case also showed marked catharrhal inflammation, being filled with débris and epithelial cells in all stages of disintegration, but there was no interstitial inflammation whatever.

A Curious Malposition of Tooth.

Dr. **Gopaul Chunder Roy** reports this case in the *Lancet*, Nov. 3, 1883: Nogendra, a Hindoo lad, aged fourteen years, presented himself for treatment for what he considered to be a tumor growing within the nasal cavity. He noticed a foul smell in his breath about four months before, attended with catarrh and sometimes a bloody discharge from the left nostril. For the previous two months the growth had been observed to occupy the left cavity, where it seemed to be attached to its wall at its upper part; its free end was looking downwards in the shape of a truncated cone. Arrangements having been made for plugging the posterior nares, in the event of uncontrollable hæmorrhage, the tumor was seized with dressing forceps and extracted. It proved to be a tooth of the shape of a canine. There was very little bleeding after extraction, and this was stopped by alum lotion. The free extremity was covered by enamel, which stopped short at its junction with the root. The root was deeply embedded in the side and upper part of the antrum.

The boy had got his set of permanent teeth, with the incisors and canines entire on either side. There was no deformity of the jaw and no swelling or cystic formation. It was clearly a case of extra-follicular development and eruption of a tooth in a wrong place, the peculiarity being that whilst in reported cases of like nature the crown of the tooth shows itself at the floor of the nasal cavity from below upwards, in the present instance, by some freak of nature, the dental follicle was transposed, and the eruption was from above downwards.

Congenital Absence of Forearm and Hand.

To a recent meeting of the New York Society of German Physicians, Dr. I. P. **Oberndorfer** presented a young woman with congenital absence of the right forearm and hand. The left upper extremity was normal. The right humerus formed a stump which was as long as the left humerus. On the inner aspect of the lower end of the stump was a cutaneous knob the size of a cherry, which was, perhaps, a rudiment representing the missing parts.

Dr. A. Jacobi thought that the case was one of intra-uterine amputation by amniotic bands, and not one of arrest of development. He saw a confirmation of this view in the fact that there were no rudiments of the fingers present. He did not consider the small appendix at the lower end of the stump as such a rudiment, on account of its lateral position.

Dr. Paul F. Mundé thought that it was a case of arrest of development, and not one of intra-uterine amputation. He could see no reason why an intra-uterine amputation should not have taken place exactly through the joint.

Dr. J. W. Frankl reminded the meeting of a case which had been presented to the society a few years ago by Dr. Rodenstein, and in which both arms and forearms were missing. The hands sprung from the shoulders.

The Route of the Flexor Longus Digitorum Pedis.

In the *Jour. of Anat. & Phys.*, Oct., 1883, Dr. SINCLAIR WHITE points out a mistake occurring in some of the anatomical text-books on this point.

Having examined a considerable number of limbs with regard to this point, he finds that in no instance does the tendon of the flexor longus digitorum pass beneath the sustentaculum tali, its course being downwards and forwards over the inner surface of the astragalus and internal lateral ligament of the ankle-joint, in most cases grooving the upper part of the inner margin of the sustentaculum, and, in a few, passing above and in front of that process, without touching it or any part of the os calcis in its course.

A glance at the articulated bones of the leg and foot will be quite sufficient to convince any one of this. It will be seen that the groove on the back of the internal malleolus in no way corresponds with the concavity of the arch of the os calcis, and that the tendon passing down the groove on the back of the malleolus, could not gain the under surface of the arch, except by crossing over the prominent inner margin of the sustentaculum tali, and the tendon of the flexor longus pollicis, which lies immediately underneath that process; but the tendon of the flexor longus pollicis is not crossed by that of the flexor longus digitorum until the anterior margin of the os calcis is reached, so that the latter tendon must be internal to it behind that point. Inspection, however, of the recently dissected parts is the best proof.

Congenital Malformation of the Brain.

Before the New York Society of German Physicians (*N. Y. Med. Jour.* Oct. 13, 1883), Dr. E. C. SPITZKA presented the brain of the child from which other specimens illustrating congenital malformations had been shown to the society at the previous meeting by Dr. Boldt. The left hemisphere of the cerebrum was considerably larger than the right. The central fissure on the hypertrophied side was not well developed and could hardly be recognized. The island of Reil of the same side scarcely showed any convolutions, while the latter were well developed upon the corresponding part of the other hemisphere. The left cerebellar hemisphere was also larger than its fellow. Dr. Spitzka said that in cases of asymmetry of the cerebral and cerebellar hemispheres the asymmetry, as a rule, was found to be homonymous. The course of the fibers between the normal cerebrum and cerebellum being crossed, one would expect the opposite to be the rule.

Dr. Spitzka also drew attention to a remarkable heterotypy of the medullary substance at the base of the left cerebellar hemisphere. There it displaced the cortical substance and protruded in the shape of a nodulated tumor.

The Pathology of Dropsy.

Dr. T. LAUDER BRUNTON contributes an elaborate paper on this subject to the *Practitioner*, Sept. 1883, which he thus recapitulates: Dropsy consists in the accumulation of lymph in small lymph spaces or large serous cavities. The accumulation is caused by more lymph being poured out from the vessels than can be removed by the lymphatics and veins. Obstruction to the lymphatics and veins will rarely produce dropsy unless the quantity exuded from the capillaries is greater than the normal. The exudation from the capillaries is increased by changes which occur in them. These changes are classed generally by Cohnheim under the name of *inflammatory*. This designation is too vague to give us any guide to treatment, and I have tried to point out that the increased permeability of the vessels is probably due to an alteration in them. It may be produced by acids circulating in the blood, as in the experiments of Cash and myself; by acids applied to them from without, as in Ludwig's experiment with the submaxillary gland; or by acids, or poisons which act like acids, absorbed from the intestinal canal, or formed in the tissues themselves.

The Bacteria Question in its Pathological Relations.

Drs. W. B. and W. H. KESTEVEN thus conclude a paper on this subject in the *Lancet*, October 27, 1883:

The following conclusions from what has gone before appear to us to sum up the present position of the pathological history of bacteria, bacilli, and micrococci:

1. That specific differences of bacteria or bacilli as belonging to different diseases have not been conclusively demonstrated.

2. That these organisms have not been found except in association, either directly or indirectly, with pre-existing disease of a degenerative nature, and that therefore they have not yet been proved to be primary agents of infective disease.

3. That the probability of the origination of phthisis from germs in the atmosphere is contradicted by the immunity of large numbers of persons specially exposed to their agency.

4. It is probable that these germs, reaching internal organs, may be the means of a salutary elimination of morbid matter.

Umbilical Phlebitis.

To the New York Pathological Society (*N. Y. Med. Jour., Oct.* 13, 1883) Dr. J. LEWIS SMITH presented a specimen from the body of a male child eight months old. Dr. Smith saw the patient only occasionally. At birth the child appeared to be well developed, but within a few days showed febrile movement, and afterward multiple abscesses developed in the scalp and other portions of the body, apparently due to a septicæmic process. At about the second month a swelling appeared near the umbilicus, which was opened by the house physician, and bile was discharged. This opening healed, and afterward, up to the time of death, bile was discharged from the umbilicus. Inflammation of the left testicle at one time existed, but was recovered from. At the post-mortem examination an abscess about as large as a walnut was found in the liver, communicating with the umbilical vein, through which the discharge of bile had taken place. The vein showed signs of inflammation. The gall-bladder and ducts were normal. One of the abscesses over the occipital bone had involved the bone and the dura mater beneath. Such cases were very rare.

Laxity of Ligaments of the Joints in Rickets.

The *Boston M. & S. Jour.*, Oct. 11, 1883, says that **Kassowitz** explains this symptom by the supposition that the vascularization of the spongy tissue of rickety bones extends to the perichondrium. Each vessel in the sub-cartilaginous fibrous sheath is surrounded by a zone of embryonic tissue, and the fibrous fasciæ as well are seats of cellular proliferation. The periosteum presents similar changes, and these are most marked at the points of insertion of the capsule and articular ligaments, which being intimately connected with the periosteum, and also the perichondrium and the bone, are involved in the rachitic process, and lose their power of resistance. Force acting mechanically under these conditions leads to a stretching of these ligaments and a permanent relaxation. This stretching of these ligaments is painful, and Kassowitz is of the opinion that it is this pain rather than muscular weakness which causes the difficulty rachitic children encounter in walking.

Carcinoma of Stomach, Liver, Spleen, and Intestine.

Dr. **Carpenter** reports this case in the *Medical Times*, Nov. 3, 1883: The patient was a man, 52 years of age, who first began to suffer from pain in the region of the stomach; the pain soon extended into the right hypochondrium. Anodynes and counter-irritants constituted the treatment. The patient rapidly emaciated; vomiting occurred, but not of blood or dark-colored matter; the cancerous cachexia developed. There was constipation and scantiness of urine. Later an irregular tumor was felt in the region of the pyloric end of the stomach. The patient died at the end of fifteen months after the commencement of his symptoms, and at the autopsy the liver, the intestines, the spleen and the stomach, were the seat of cancerous degeneration, the latter organ and the liver being greatly diminished in size. The cæcum was much constricted, which would account for the extreme constipation which had existed.

Acute Gastro-Enteritis in a Bear.

To the Pathological Society of London (*Med. Times and Gaz., Oct.* 30, 1883) Mr. J. **Hutchinson**, Jr., showed the stomach of a female bear which had been at the Zoological Gardens about four years, and died in February last after one day's illness. The stomach and upper part of the intestines were acutely inflamed; the rest of the alimentary canal was healthy. There was no food, but much exudation, in the stomach and neighboring parts of the intestines. No torulæ, sarcinæ, or micro-organisms were found, but minute quantites of round cells and fibrin, with altered blood. The uterus, bladder, and trachea showed acute catarrh. The other viscera were healthy. Probably the disease was purely catarrhal. It was noteworthy that there was no fur whatever on the tongue.

Pathology of Infantile Cholera.

At a recent meeting of the Berlin Medical Society, Dr. **Baginsky** stated that he had found micrococci in the excreta as well as in the intestinal mucous membrane of children dying from infantile cholera. Peyer's glands were filled with bacilli from organisms, which were frequently found to have migrated into the submucous tissue, while the stools, as well as the lower end of the ileum and the rectum, contained zooglœa-masses so closely packed, that Dr. Baginsky had not been able to ascertain the form of the organism comprising them, nor to decide whether they had any pathological importance.

Double Stylo-Hyoid.

In a communication from the Anatomical Rooms of McGill University, Montreal, to the *Annals of Anatomy and Surgery*, October, 1883, Dr. F. J. **Shepperd** says: This anomaly was met with *five* times; twice on both sides of the same subject. In all five cases the extra muscle took the place of the stylo-hyoid ligament, and extended between the styloid process and lesser cornu of the hyoid bone passing beneath the hyo-glossus muscle. This arrangement is found in some of the edentata.

The Pathology of Iodoform Poisoning.

In four cases of death from iodoform poisoning, **Dr. A. Hoepff** (*Allgem. Med. Central Zeit.*) found the following conditions: Fatty degeneration of heart, liver, and kidneys. In order to determine whether these conditions were really due to the iodoform, he administered subcutaneous injections of iodoform in oily solution to rats, guinea pigs, and rabbits, and in every case he found parenchymatous inflammation of the heart, liver, and kidneys.

Absence of the Uterus.

In the *St. Petersburger Med. Woch.* is reported the case of a healthy woman, aged 24, in whom there was no uterus. The labia were normal, the clitoris small. urethra much dilated, and the vagina, which was short, ended in a cul de sac, She had never menstruated, and never had any vicarious hemorrhages. Though married six years, every attempt at coitus caused intense pain.

The Origin of the Bacilli.

The specificity and contagion of the so-called tubercle bacillus has been denied by **Bouchardat** before the Paris Academy of Medicine, and he attributes them to a fault of nutrition, as the result of which leucocytes acquire the power of transforming themselves into pathogenic bacilli.

II. PHYSICS, BOTANY, CHEMISTRY, AND TOXICOLOGY.

Chloral Poisoning.

Mr. Arthur Mechan reports this case in the *Brit. Med. Jour.*, Oct. 27, 1883: A gentleman, twenty-six years of age, was suffering extreme pain from syphilitic rupia, for which I prescribed the following mixture, in order to relieve his sufferings and to induce sleep:

℞ Hyd. chloral. ʒvj; pot. bromid. ʒiv; aq. aurantii ad ℥iv. ʒij to be taken at bedtime.

The patient wilfully swallowed the whole contents, except one ounce. The draught must have been taken about midnight, and the patient was not seen till next morning at 8 o'clock, when his mother saw him, and she, thinking he was sleeping naturally, did not disturb him. He was again seen at ten o'clock, when an effort was made to awaken him, which, however, was unsuccessful. I was then sent for; and, on my arrival, at half-past twelve, I found him lying flat on his back, his eyes and mouth wide open, and the conjunctivæ injected. There was congestion of the capillary system generally, heavy breathing, complete muscular relaxation, and reflex action abolished. The pulse was slow and full, the temperature 102°. He was with some difficulty aroused, but by continuous efforts, was kept awake, and so far roused as to be persuaded to swallow some strong black coffee. By applications both vocal and physical, he was at length awakened to a sense of his position, but, on withdrawing the stimuli, he relapsed into a drowsy condition. Strychnine was then administered, and instructions given to keep him awake. In three hours' time he was completely conscious, and felt quite well, except for a feeling of great lassitude. The strychnine was repeated, and, during the afternoon, he was quite ready and able for dinner. His temperature fell two degrees, and his pulse regained its natural strength and volume. His return of consciousness, he himself states, was just subsequent to his having the coffee, and his prior loss of consciousness began immediately after he had swallowed the chloral. To my positive knowledge, no narcotic had been taken for at least six months previous to this occurrence; but at that time he could take four grains of solid opium. Chloral he has had on two occasions in sixty-grain doses. He never had taken bromide of potassium before. On this occasion, he swallowed 270 grains of chloral, or nearly five drachms, combined with three drachms of bromide of potash. Such is the history of the case: its full value is lost, of course, owing to the length of time elapsing between the taking of the poison and the notifying of the symptoms. Ten hours had elapsed before my seeing him; but I think, had he been allowed to continue his slumbers undisturbed, the result would have been the same—very complete recovery. The poisonous effects must have been much more decided during the hours immediately succeeding his taking the draught.

Dr. Levinstein reports a case where the dose taken was six drachms, and recovery ensued; but in his case twenty-four hours elapsed before consciousness was restored, and that only after continuous treatment from the first hour of the poison being taken.

Ten Cases of Poisoning by Canned Meat.

The *Archives de Médecine et de Pharmacie Militaires*, for August 15th, gives the report of the surgeon accompanying a company of a French regiment on the march in the East, where ten boxes of conserve of bouillie beef were opened for distribution, each box being served to ten men, making each man's ration one hundred grammes of the viand. The corporal in charge of the distribution found that in one of the boxes, while there was no bad odor, in place of the firm jelly overlying the meat, there was a white, slightly viscous fluid, as if the jelly had liquefied. This he threw away, only giving the meat itself. One hour after the meal the ten men who partook of it were all taken ill with nausea, alimentary and bilious vomiting, vertigo, violent colics followed by diarrhœa, the stools being fœtid and spumous, marked cramps in the thighs and legs, lasting four or five minutes, making all movement very painful. These patients were transferred to a hospital, suffering from intense frontal headache, with a sensation of throbbing at the temples. No heat of skin or febrile movement, pulse weak and slow but regular, respiration normal, abdomen slightly sensitive to pressure; urine scanty, cloudy, loaded with urates, but neither sugar nor albumen. The following day the symptoms were much less marked, cephalalgia and want of appetite remaining, more of the patients were able to get up and walk about; the third day the symptoms had all disappeared, and the fourth day they all reported for duty.

These men had eaten only of the canned meat and their usual bread ration; they had drank coffee, no alcohol, and water of a good quality; none of their comrades had suffered in any way. The preparation of the canned meats had been recent—June, 1881—and the date of poisoning was January 13, 1882, not more than seven months. The ten boxes or cans were carefully examined; one of them had a peculiar and decided fishy odor, like sardines in oil, while all the others gave the healthy odor of meat fat. This can was recognized by the corporal as having contained the offending substance. There remained a little of the jelly and meat at the bottom of the can; the jelly had a sharp, disagreeable taste; the meat, though insipid, was eatable. The can itself showed nothing out of the way—no fissure, the solderings were intact, and the interior showed the brilliant metallic lustre of tin. There was a careful analysis made of both the jelly and meat, but it revealed nothing. The microscope was not used. The report made was to the effect that these preparations could undergo a change which, without modifying either the appearance, color or taste of the viand, would endow it with toxic properties; and the only sign existing was the fishy odor on the sides of the can, the simple liquefaction of the fat not being indicative of any change in the viand itself.

A New Kind of Gunpowder.

The *Pharmaceutical Record*, Nov. 1, 1883, says Himly, in his efforts to discover a new kind of gunpowder that should possess more power than the ordinary powder, without the dangerous properties of the nitro-compounds like dynamite and that class, found that the best results were obtained with a mixture of saltpetre, chlorate of potash, and a solid hydrocarbon.

The new powder is made by mixing finely pulverized saltpetre, chlorate of potash, and coal-tar pitch with enough benzol (from coal tar) to make a plastic paste or dough. This is formed into flat cakes by pressing it into moulds, and the benzol allowed to evaporate. The cakes are then granulated like any other gunpowder. Like ordinary powder, the grains are irregular and can be made of any desired size. Its specific gravity is 0.9, or a little more, agreeing with common gunpowder.

It is quite hard, and does not smut off even when damp. It will bear a heat greater than that of melting tin without change. It will not ignite by a single spark of short duration. If ignited in an open vessel, it burns rapidly with a white light. In a closed space it burns violently, and leaves behind a slight residue, producing but little smoke. A gun is not injured in the least by the products of its combustion.

The advantages of this powder over those previously in use are essentially the following:

1. Ease and rapidity of manufacture.
2. There is no danger in making it.
3. Its freedom from any hygroscopic qualities; 100 grammes of it exposed to damp weather for four days in an open window showed no gain of weight with a delicate balance.
4. It is two and a half times more powerful than common powder.
5. The slight residue, leaving scarcely anything.
6. The fact that it gives off so little smoke as to be scarcely noticed, and what is formed is totally innocuous as contrasted with that from nitro-explosives.—*Repert. Analyt. Chemie.*

Poisoning by Strychnine.

In the *Brit. Med. Jour.*, Oct. 20, 1883, Dr. E. T. Burton says: At 10:15 p. m., of August 13th, I was called to see a young married woman who, I was informed, "had taken poison." I went at once, taking with me some sulphate of zinc and the stomach-pump. On my arrival at the house in three minutes, I found her with well-marked opisthotonos and tetanic convulsions, with slight remissions every half minute. The teeth were, during the attacks, firmly closed, rendering the use of the pump impossible. The mouth resembled that of a bag below which a string had been tightly tied, the lips being puckered and everted; the legs were extended, the arms bent, and the legs rigid. The woman screamed piercingly on the approach of each paroxysm, and, in the interval, begged to have her life saved, and for forgiveness for her sin in taking the poison. The pulse was rapid and wiry, and bloody mucus was hissed through the clenched teeth.

I dissolved about half an ounce of sulphate of zinc in a quart of warm water; and, when I told her her life depended on taking it, she greedily drew it in between her teeth, vomiting taking place rapidly, and continuing after each draught, till she had consumed the entire quantity. I obtained some tobacco in the house, and rubbed it between my fingers in some hot water till I made an infusion of about half a drachm to four ounces of water. I could get no boiling water. This was strained through some muslin, and administered. In about ten minutes, vomiting again ensued, but not till the paroxysms were reduced to one in every three minutes and a half. I then gave her a second similar draught, and this was retained for a longer period, the paroxysms steadily decreasing both in frequency and intensity till at 2 a. m. nothing remained but an occasional twitching of the muscles She was then ordered warm milk and beef-tea alternately every two hours, and continued making satisfactory progress, the only symptoms present being those of dyspepsia, and cramp in the arms and legs. She admitted having swallowed the contents of a three-penny packet of Battle's vermin-killer, which she took at nine o'clock on the evening on which I saw her. In all the cases I have previously seen, death took place under three-quarters of an hour from the taking of the poison, which, strange enough, was always a three-penny packet of the same poison.

Fatal Chlorate of Potash Poisoning.

From the *Med. Times & Gaz.*, Nov. 3, 1883, we learn that Drs. BROESICKE and SCHADEWALD report a case (*Berliner Klinische Wochenschrift*, No. 42, 1883,) of rapid poisoning by chlorate of potash in a healthy young man, aged twenty-two. After excessive and incautious gargling with a strong solution for some trifling throat affection, in the course of which he had swallowed a considerable quantity, the patient complained on the following day of sickness and of pain in the sides and loins. Signs of acute gastritis rapidly followed; nausea and severe pain in the splenic region were the chief symptoms. Some enlargement of the spleen could be detected. Heart and lungs were normal; but distinct cyanosis, especially of lips and extremities, was present. Two days after the poisoning, severe vomiting set in, and lasted to the end. Icterus followed, but disappeared before death. On the fourth day, severe epistaxis occurred; extreme præcordial anxiety followed, but without any notable signs in heart or lungs; and some rigidity of the muscles of the extremities was observed. Death took place on the eighth day. Throughout the whole period of illness hardly any urine was passed; the temperature remained a little below the normal; the pulse, however, was of fair strength. The post-mortem examination, made four days after death, revealed a brown discoloration of the blood in the vessels. This blood, however, gave the normal appearance to the spectroscope. The spleen was very greatly enlarged, brownish in places, the capsule soft. The kidneys were also enlarged, the cortical portions expanded and of a dirty green color. Microscopically, the straight and convoluted tubules were found filled with numerous brownish, irregular-shaped masses of hæmoglobin. The stomach showed acute and chronic catarrh, with a few ecchymoses. The large intestine and rectum contained a large quantity of brownish, watery fluid, and the mucous membrane appeared œdematous. Other organs normal.

Poisoning by Fishberries (Cocculi Indici).

Dr. Thos. S. Sozinskey reports the following case in the *Med. News*, Nov. 3, 1883: B. McV., aged thirty-nine years, a man of medium strength, drank by mistake several ounces of whisky in which a handful of fishberries had long been steeping, the preparation being intended for the destruction of bedbugs. I saw him a little less than an hour afterwards. He had vomited once before I reached him, but there was no recurrence of it, although mustard and salt and alum were given to cause it. I found him totally unconscious, a condition in which he remained to the end, and powerful general convulsions were following one another every five minutes or so, each lasting about two minutes. Between the convulsions there was perfect relaxation; hence they were very pronouncedly clonic. There was considerable opisthotoños. Each convulsion began with twitching of the muscles about the left corner of the mouth. As each attack came on, there was more or less of an outcry, as in epilepsy, and, as in that disease, some frothing was observable at the mouth. The pupils were markedly contracted. Respiration was extremely slow, and grew more so to the last. The action of the heart was not very noticeably disturbed. There was profuse perspiration. Decided diarrhœa came on within two hours. Death occurred just three hours after the fatal dose was taken, and was apparently due to failure of respiration and exhaustion. By way of counteracting the symptoms, half a grain in all of sulphate of morphia was used, and was given hypodermically. After using it, the convulsions did not occur so frequently, but their power was not lessened in the least. No chloral or anything besides the morphia was used.

Graphic Record of Movements.

The *Lancet* of Oct. 6, 1883, says: An ingenious apparatus for graphically recording the movements of the hand and fingers under various conditions has been devised by Dr. Francis Warner. It resembles the india-rubber tubing on the backs of cricketing gloves, designed to protect the hand from injury; but the tubes are closed, and not jointed; they are connected by means of small conducting tubes of caoutchouc with a series of tambours; with the tubes is also connected an electric apparatus, by which a bell can be rung when a movement is made and a tracing taken. Dr. Warner believes that by observations made with this instrument the mental development of infants may be followed, the amount, kind, and coördination of their movements affording information in regard to the internal conditions of their nervous system. He finds that children are, except when their attention is strongly excited, constantly executing spontaneous movements; but such movements fail in adult age, being replaced by the function of "mentation," or thought. When the function of mentation is lessened, as by fever, the excess of movement often re-appears in delirium as subsultus tendinum. In many so-called mental conditions the emotions are expressed by the action of the muscles of the face and hand; in other words, we judge of the condition of the nerve-mechanism whose function is mentation by certain nerve-muscular movements, whose exact record and measurement Dr. Warner thinks his apparatus is well adapted to study. The paper is contained in the second part of the fourth volume of the *Journal of Physiology.*

The Value of an Acquaintance with Botany as a Preliminary to the Study of Medicine.

Dr. **Benjamin Lee**, of Philadelphia, read a paper with this title before the last meeting of the American Academy of Medicine, in which he deplored the present low requirements for the admission of students to medical colleges, and the omission of accessory studies from the college curricula, especially that of botany. He gave an account of the labors of the early professors in the Medical Department of the University of Pennsylvania in this field of teaching, and spoke of the capability of botanical study to enrich our materia medica. Reference was then made to the bibliography of botany in the United States, especially the works of Barton, Bigelow and Carson. Some of the medicinal plants indigenous to America were described for the first time, he said, in a work by Hughes, published so early as the sixteenth century, "at the Green Dragon, outside Temple Bar," London. Of late years the development of our native vegetable materia medica had been left almost entirely to the efforts of the manufacturing pharmacists. An excellent opportunity for the study of the flora was offered the practitioner in the rural districts. Dr. Lee sought to impress upon the Academy the necessity of insisting upon the study of botany as one of the requirements for the admission of students to our medical colleges. If it were not studied before the medical course was entered upon, its pursuit would not be likely to be taken up afterward. Steps were now being taken by the Medical Society of the State of Pennsylvania to make an examination in botany a condition for admission as a medical student in that State.

Tartar Emetic Poisoning.

In the *Med. Record*, Oct. 13, 1883, Dr. **James Stratton Carpenter** reports a case where one hundred and seventy grains were taken by mistake. Poisonous symptoms were not manifested for a quarter of an hour, and recovery followed. Profuse vomiting was caused by the drug. The treatment consisted in tannic acid and albuminous drinks, with deodorized tincture of opium for the burning pain in the stomach, along with internal and external stimulation.

"In this case it may be interesting to note:

"*First.* The length of time that occurred between the ingestion of so large an amount of the poison and the production of its first symptoms, as being in accord with the accepted idea of the action of tartar emetic upon the centres, absorption being first necessary, rather than its having any direct local irritant action upon the membrane of the stomach, and so causing the violent emesis.

"*Second.* The urine, which, according to some authorities, in the beginning of mild, and even of fatal cases, is increased in quantity, was in the present case almost suppressed.

"*Third.* The respirations, which are said to become altered in rhythm by the action of the drug on the respiratory centres, were unaltered in character.

"*Fourth.* There were no disturbances of sensory fnnction, the ability to appreciate thermic irritants being attested by the patient's ready recognition of the elevated temperature of the hot cans with which his bed was provided."

Poisoning by Caustic Alkali—Feeding by Rectum for 49 Days.

In the *Jour. Am. Med. Ass.*, Nov. 17, 1883, we read that Dr. McDougall, in charge of the Kulangzu Hospital, Amoy, furnishes the *Customs Gazette* with the notes of a case of attempted suicide in a woman, by swallowing an ounce of caustic alkali. Vomiting ensued almost immediately, the vomited matter containing a good deal of blood. Three days later the patient was admitted into the hospital very weak and pale, eyes sunken, and lips, tongue, palate, and uvula covered with sloughs. Deglutition being impossible, she was given frequent nutrient enemata, amounting in the day to fifty or sixty ounces of beef-tea, eggs and milk. The enemata were retained for three or four hours. After the mouth and throat got well the patient made frequent attempts at deglutition, but without success. On the 45th day a small sized bougie (after many unsuccessful efforts) was passed through one stricture at about the level of the thyroid cartilage, but after passing six inches beyond this point it stopped, and subsequent attempts at getting it lower proved fruitless. On the 49th day the patient for the first time swallowed a little congee (?) and milk; this was followed by great pain in the stomach. The quantity was increased every day, until a week later she swallowed a large tumblerful of beef-tea and the same quantity of milk. The retal injections were continued. Her master took her away the next day, and four weeks later came the news of her death. It is most probable that the cessation of nourishing enemata, and the absence of any sufficient food that she could swallow, simply brought on death by starvation. She lived for 49 days without swallowing the smallest quantity of food, either fluid or solid, and derived so much nourishment from the enemata that she actually gained in weight.

Absinthe Poisoning.

After reporting a case of absinthe poisoning in the *Med. Record*, Sept. 22, 1883, Dr. Albert S. Adler says: Magnan (*De l'alcoolism, des divers forms, du delire alcoolique, etc.*, Paris, 1874, and *Annal. Médic. Psych.*, 1874, p. 302), was the first to describe the danger of absinthe drinking. His experiments on animals, as well as observations on man, have demonstrated that it was not the alcohol which brought forth the spasms, but that the absinthium was the source of the vehement symptoms. Alcohol occasions delirium and tremor, absinthium these two and epilepsy in acute alcoholism. Small doses of wormwood given to animals have the effect of producing tremor of the muscular system, dizziness, and in a surprising manner upstarts of individual muscles, in larger doses a complete formed epilepsy. In man, besides the alcoholic delirium, epilepsy is noticed. Among three hundred and seventy-seven persons addicted to the use of alcohol, Magnan found, in 1870, but thirty-one epileptic cases, and in 1871, among two hundred and ninety-one, only fifteen. In France it is regarded by the legal authorities as a poison, and only allowed to be sold in drug-shops. Magnan comes to the conclusion that if epileptic attacks happen in acute alcohol-poisoning, it was only in absinthe drinkers, and that acute alcoholism without epilepsy, but with tremor of any degree, was but seen in persons partaking freely of wine or whisky.

Benzoate of Cinchonidine.

In *New Remedies*, Oct., 1883, we read that this salt is prepared, according to Byasson, in the following manner:

Dissolve 60 parts of benzoic acid in 200 parts of alcohol of 90 per cent., and pour the solution into a porcelain vessel containing 3,000 parts of boiling distilled water. On the other hand, dissolve 200 parts of sulphate of cinchonidine in 2,000 parts of water, with the aid of diluted sulphuric acid and precipitate with ammonia. Wash with a small quantity of cold water. Add the still moist precipitate to the hot solution of benzoic acid, and filter while hot. If the solution is not faintly alkaline, make it so by the cautious addition of ammonia. On cooling, the benzoate of cinchonidine separates in form of small, thin, prismatic needles, much resembling the neutral sulphate of cinchonidine. By the evaporation of the mother water, a new crop of crystals is obtained, which are added to the first, and then washed with cold water. The yield is about 200 parts.

Bouchardat recommends this salt in mild cases of diabetes with excessive uric acid production, which he calls "glyco-polyuric diabetes." He follows the authority of Ure, who states that benzoic acid unites with uric acid, and forms hippuric acid or alkaline hippurates, which are both more soluble than uric acid or urates. —*Pharm. Post*, No. 34.

Poisoning by Laburnum Seeds.

In the *Brit. Med. Jour.*, Oct. 6, 1883, Dr. Henry Robinson reports as follows: On August 12th, a gentleman came in haste to my surgery, stating that two of his children and nurse, while playing in the garden, had eaten a quantity of laburnum seeds, and were very ill from the effects of them, and desired my accompanying him at once. Upon arrival, I found the nurse, aged 15 years, a little boy and girl, aged respectively 3 and 6 years, all more or less suffering from collapse and sickness, the pulse fast and feeble, the pupils widely dilated; the little boy was in convulsions, the other two were not so. The stomachs having been well emptied before my arrival, I had each put in a hot bath; and, immediately on being taken out, wrapped in warm blankets, with a mustard poultice applied over the stomach, and I gave a little brandy and water every few minutes. Reaction soon began to take place; and I am glad to say they all made a good recovery.

From the experience of these three cases, I think the stomach having been well emptied, very energetic measures should be used to bring on reaction as soon as possible.

Relative Purity of Snow-Water.

New Remedies, October, 1883, says: At the recent meeting of the American Pharmaceutical Association, Mr. Geo. W. Sloan, of Indianapolis, presented an answer to query No. 2, viz.: "It has been said that, if snow formed in any month but April be melted and bottled, the water will become ropy; that snow which falls during April, on the contrary, will furnish water which will remain limpid the summer through, and which can be used by pharmacists and photographers."

The results of experiments made by Mr. Sloan, and analyses by John N. Hurty,

M. D., show, in brief, that "it is not the month of the year, but the condition of the atmosphere at the time of the falling of the snow to which must be attributed the variations of snow water; for it is shown that, when the atmosphere has been washed by a rain, just preceding the snow, the water from that snow shows a minimum of impurities, whereas that obtained from snow not preceded by rain shows an increase. As the month of April probably gives the phenomenon of rain changing into snow more frequently than some of the other months, it was quite natural that the fact should be attributed to the month, without ascertaining the real cause."

Bleaching by Electricity.

From *L'Electricien*, No. 40, we learn that Dr. Dobbie and M. Hutcheson have obtained important results by examining the action of the electric current on a solution of marine salt. The chloride of sodium is decomposed, as is well known, and if the solution is neutral, some of the chlorine is set free and hypochlorite of soda is produced; if the solution is alkaline, there is a simple production of the hypochlorite; if the solution is acid, there is a yield of chlorine and of soda. The inventors have sought to apply this reaction to bleaching, and their experiments seem to have been perfectly successful. Without going into details, it may be easily understood that the production of hypochlorite, or of chlorine, in a fabric which is impregnated with a solution of chloride of sodium, simplifies the operation of bleaching, and renders it much more efficacious, because it takes place in the very pores of the tissue. The washings and the preparatory bleachings may thus be dispensed with. Delahaye anticipated the possibility that the invention may lead to a new process for the direct manufacture of soda.

Cholera Chemically Considered.

The *Lancet*, September 29, 1883, says: The greater the ignorance which prevails on any particular subject, the more numerous are the existing views on that question. An acquaintance with such a variety of opinions possesses a certain kind of interest. M. Ramon de Luna has given expression to his views on cholera at a recent meeting of the Académie des Sciences. He believes that the cause of cholera is always to be found in the atmosphere; that it exerts its action exclusively through the respiratory passages; that it is especially during the passive condition of the individual, particularly during sleep, that its incubation takes place; that the microbe or ferment acts chiefly on the blood-corpuscles, preventing proper oxidation, and so leading to gradual suffocation; that the only remedy which was ascertained to do any good was the inhalation of the fumes of nitrous acid mixed with air; and that the same agent is of prophylactic value against cholera. These conclusions are given as the result of practical successful experience.

Chlorophyll in Animals.

In the *Lancet*, Sept. 29, 1883, we read the following: Some biologists have considered that chlorophyll in animals was due to the presence of minute parasitic algæ; but this view, entertained by German physiologists, is opposed to various considerations. Chlorophyll has been found in a diffused condition throughout all the tissues, and not merely in the form of little globules, which might be considered as independent organisms. Mr. McMunn read a paper at the British Association in which he defined chlorophyll as that coloring matter or mixture of coloring matters which can be extracted from green leaves by means of alcohol and ether. He had proved that this green coloring matter was present in the intestines of invertebrate animals, and the conclusion at which he arrived was that all the characteristic appearances of vegetable chlorophyll are present in animals, and that such pigments were synthetically built up by and in the bodies of animals.

Poisoning with Confectionery.

In the *N. Y. Med. Jour.*, Sept. 29, 1883, Dr. Alfred Meyer relates cases of poisoning in two servant girls and several children by confectionery. He subjected a portion of it to the test with Marsh's apparatus and obtained deposits. These deposits might be either arsenic or antimony. He did not employ the test to distinguish between these two, because he wanted to preserve the specimens for demonstration. He had no doubt that the confectionery contained arsenic, and not antimony, since there would be no occasion for adulteration with antimony, and the arsenic was evidently introduced with the coloring material. Tests had also been made for copper and for lead, but neither was found.

Dr. Jacobi mentioned a case of a thirteen-year-old girl who, coming from school one afternoon, bought a pickle and ate it. She began to vomit immediately, and died the next morning. Examination showed that the pickle had been dyed with arseniate of copper.

Naphthalin as an Antiseptic.

New Remedies, Dec. 1883, says: Dr. Luecke, of Strasburg, some time ago, recommended naphthalin as a serviceable antiseptic in cases where carbolic acid would be dangerous, and other antiseptics, such as iodoform, chloroform, etc., would be uncertain. His statements have been confirmed by others, who recommend it, for instance, in operations on the uterus, in the rectum, in the fauces, also for dressing cavities which remain after the removal of infiltrated or suppurating lymphatic glands, etc. It is usually used in form of powder, not immediately applied to the wound, but placed on the outside of the first dressing.

Naphthol has also been lately recommended as an antiseptic, to take the place of carbolic acid. Care should be taken that the two substances be not confounded.

Poisoning by Stramonium.

Dr. W. J. J. Paris reports two cases in the *Southern Practitioner*, Nov., 1883, "I decided that it was too late for an emetic to do any good, and administered one tablespoonful castor oil, one teaspoonful peach brandy, and fifteen drops bromidia to each of them, then bathed their heads, necks and faces in cold water and put them back to bed. They slept naturally one hour when I aroused them again and repeated the brandy and bromidia. This time they sat up, opened their eyes and talked cheerfully for a few minutes, showing no untoward symptoms except slight tremors, dilatation of pupils and drowsiness. Put them to bed and went to bed myself. Left them next morning quite well, though bowels had not moved. Ordered castor oil until the bowels did move."

Nitrogen in Soils.

The *Jour. Frank. Inst.*, October, 1883, says: J. B. LAWES, in a long communication upon agriculture, advocates the opinion that the source of all the nitrogen which is contained in crops is found in the soil itself and in the manures which are supplied. Although the experiments at Rothamsted may not yet have established this theory beyond controversy, they have given strong indications of its truth, and he thinks that future operations will demonstrate it conclusively. He regards it as fortunate for agriculture and encouraging to those who are engaged in it, that the stock of nitrogen, even in a subsoil which is comparatively poor, is so large as to show very little diminution after cultivation for a long series of years.—*Bull. de la Soc. d'Encour.*, November, 1882.

Striking the Hours by Electricity.

From *L' Electricien* we learn that J. LAUGÉ, a watchmaker of Béziers, takes the electric wire of a battery which controls an electric bell, and attaches it to some metallic part of the movement of a clock. The positive wire, suitably insulated from other parts of the clock, is fastened so that its extremity will be just over the handle of the hammer. When the clock strikes the hammer rises, and its handle rubs the positive wire, so as to form the contact. At the same moment, the other bells which are in the circuit strike the same hours as the clock. The system might be applied to church bells. Even the great bell of Notre Dame might be swung by a little clock, so as to strike synchronously with it, by means of a sufficiently powerful electro-magnet.

Poisoning by Bromine.

From the *London Med. Record*, Oct. 15, 1883, we learn that Dr. KORNFELD relates (*Friedrich's Blätter für Gerichtl. Med.*, 1883, p. 228) an interesting fatal case of the poisoning of a child, aged 1¾ years, by the inhalation of the vapor of bromine. The child died on the sixth day, after suffering from suppressed voice and respiratory troubles, followed by gastric disturbances, and finally various cerebral symptoms. At the necropsy the skin of the cheeks and neck, where the vapors had come into contact with the parts, had a yellow appearance, and a peculiar parchment-like feel. Bromine was detected on the skin, and also on the clothing of the child during life.

The Poisonous Dose of Carbolic Acid, Common Thymol, Cymenthymol, and Resorcin.

S. FUBINI and A. RUSSO GILIBERTI have been experimenting upon guinea pigs (*Moleschotts Unters*, xiii. 2 and 3, 1882), to determine the relatively poisonous doses of the above substances. Of the four drugs, thymol was found to be the least poisonous, since its smallest lethal dose amounted to 110 centigrammes per kilogramme of weight of the animal. On the other hand, carbolic acid, resorcin, and cymenthymol were each much more poisonous, for the smallest fatal dose in each of the three amounted to 70 centigrammes per kilogramme of body weight.

Incombustible Paper.

M. G. MEYERS, of Paris, is stated to have invented an incombustible paper, which in addition to its power of resistance to extreme heat has the merit of preserving its normal appearance under the action of fire. The utility of such a material is obvious. Amongst other purposes to which it may advantageously be applied, is the construction of non-inflammable theatrical scenery, the combustible nature of which, as at present in use, has contributed so largely to disasters from fire in places of scenic entertainment.

Vanillism.

Drs. LAYET and ARNOZAN described recently to the French Association for the Advancement of Science a form of poisoning produced by eating and handling the vanilla bean. In the first instance the symptoms are much like those of cholera, with recovery in three or four hours, while in the latter there are papular eruptions on the face and hands, with heat and swelling of the parts affected, pruritus and irritation of the eyelids and eyes, the eruption often attended with patches of redness and desquamation.

Alcohol in the Brain of Drunkards.

In the *Zeitschrift für Analytische Chemie*, HERR KUYPER records the fact that he has ascertained by distillation the presence of alcohol in the brain and liver of two persons who had fallen into the water when drunk and had been drowned. In one brain he found about one-fifth of a cubic inch of alcohol, and in one liver a little over half a cubic inch.

Poisoning by Aconite.

The *London Med. Record*, Oct. 15, 1883, says that Dr. EMMANUEL ROTH communicates an interesting case of fatal poisoning by half a teaspoonful of tincture of aconite (*Vierteljahrsschr. für Gerichtl. Med.*, Band xxxix., p. 76). Death occurred in two hours, consciousness remaining intact almost till the end of life.

III. MATERIA MEDICA AND THERAPEUTICS.

New Remedies.

The *Chemist and Druggist* for November 15, 1883, tells us that this was the title of a paper read before the Chemists' Assistants' Association, on October 31, by Mr. JOSEPH F. BURNETT. The author noticed the following remedies:

HAMAMELIS.—This is a remedy coming rapidly into use as an astringent in various disorders of the mucous membrane. Possessing properties tonic and also sedative, it promises to be a valuable agent in diarrhœa and dysentery. The bark is the part of the plant from which the preparations are made, the name of the plant being *Hamamelis Virginica.* It belongs to the natural order Hamamelidaceæ, a small and unimportant order, containing only about twenty species. It is a native of North America, and is generally exhibited in the form of a resinoid extractive termed "Hamamelin," or as tincture or fluid extract. The usual dose appears to be about 5 minims of a 1 in 10 tincture prepared with proof spirit, or 3 to 5 grains of the resinoid. While on the subject of doses, I may remark that there appears to be a great discrepancy upon this point in connection with most of these new remedies. This is much to be regretted, as it seems somewhat difficult to ascertain at present from the limited matter published what is the true physiological effect of a given dose. For example, the dose of Curarine, an alkaloid obtained from a species of *Strychnos*, and proposed as a remedy for tetanus and hydrophobia, is stated by one authority to be from $\frac{1}{20}$th to $\frac{1}{2}$ a grain; while another says it is perilous to administer more than $\frac{1}{30}$th of a grain! Daturine likewise is given in one publication as having a dose of $\frac{1}{120}$th of a grain increased to $\frac{1}{20}$th, a second ascribing to it the infinitesimal dose of $\frac{1}{500}$th to $\frac{1}{240}$th. These appear to be strangely contradictory, and I only quote them to show how much at variance the opinions of different practitioners are. But to return to our subject of hamamelis. Besides the resinoid, tincture, and fluid extract. an ointment, made with 1 of the tincture to 10 of simple ointment, is in use. Suppositories made containing 1 grain of hamamelis are said to be efficacious in piles. Hazeline, a preparation of Messrs. Burroughs & Co., and Pond's Extract are distilled-products from hamamelis bark. The common name of hamamelis is "Witch Hazel."

SASSY BARK.—This is the bark of a tree of which the botanical name is *Erythroplœum Guineense*, of the natural order Leguminosæ, and a native of Western Africa. It has been used as a sedative in various diseases of the heart, but not extensively. The dose of a 1 in 10 tincture, prepared with rectified spirit, is stated to be from 5 to 10 minims. An alkaloid has been extracted from this bark, the physiological effect of which is described as similar to a combination of digitalin and picrotoxin (the alkaloid furnished by the seeds of *Cocculus Indicus*).

This bark is interesting as one of those articles used by the natives as an ordeal, hence it is sometimes termed "Ordeal Bark" or "Doom Bark." In this respect it resembles another leguminous plant, viz., the Calabar bean. It has also been used as a source of an arrow poison, so it would appear to contain some products worthy of further investigation. It is likewise known by the names of "Casca Bark," "Mancona Bark," and "Cassa Bark." The powdered bark has the property of inducing powerful sneezing.

Abrus Precatorius is another interesting drug furnished by the Leguminosæ. The seeds of this plant, a native of Brazil and India, are termed "Jequirity Seeds," "Prayer Beads," or "Jumble Beads." The plant is also termed "Indian Liquorice," or "Wild Liquorice," and the root is officinal in the Indian Pharmacopœia. These seeds were formerly reported to be poisonous, but now the general opinion appears to be that they are inert. They are used as an infusion (3 parts in 1,000; water at 120° Fahr.) to produce inflammation of the eyes, accompanied by a discharge, for the relief of granular lids, etc. The irritating action of this infusion is stated to be due to an organism which becomes developed in it. If carefully freed from these organisms, the infusion is incapable of producing very marked results, and one writer even says that a solution of the crystallized active principle produced no effects when hypodermically injected. In India, the seeds, bruised, are sometimes used to relieve pain by local application in such disorders as rheumatism, sciatica, or neuralgia. Whether they possess the property ascribed to them I am unable to say. They are used as a standard of weight by Indian jewellers, under the name of "Rati." Each seed weighs about 2¼ grains. Originally the famous Koh-i-noor was weighed, and the value estimated, by these seeds. The English "carat" used by jewellers is a weight derived from the Indian "Rati."

The Leguminosæ was ever an important order. Not a few of our officinal drugs are obtained from it, and by it are furnished many articles of food and substances which are used in the arts. We find it again coming to the fore, and yielding another new remedy, viz.:

Piscidia Erythrina, or, as it is occasionally termed, "Piscidia Piscipula." This plant is a native of the West Indies, where it appears to have been in use for some time as an intoxicant of fish, hence one of its names, the "Fish-catching Coral Tree." The bark is now being introduced into use in this country as a medicinal agent under the name of "Jamaica Dogwood." Its properties appear to be chiefly narcotic, though in a measure it may be tonic and diuretic. The tree yielding this bark is described as being usually about 20 feet in height, with a bright-colored smooth bark, with irregularly-spreading branches, and flowering before the appearance of the leaves, about March or April. The wood is stated to be of a light-brown color, cross-grained, heavy, resinous; well adapted for use as piles, etc., being durable under water. The tree will become more valuable if the bark becomes as generally used as it promises. It is said that in the last century a decoction or infusion of this bark was used in the West Indies as a dressing for wounds, etc., but it is only very recently that it has been internally administered. The general testimony of practitioners who have prescribed it is that it is a narcotic superior to opium, inasmuch as it does not produce the well-known disagreeable after-effects. I have seen a case reported in which it was said that an opium preparation had been substituted, hence one writer on the subject directs the ferric chloride test for meconic acid to be applied to all preparations of piscidia. As yet no active principle has been isolated, save a resinoid by the American Eclectic Society, which has been termed "Piscidin." It seems to be of particular use in neuralgia and acute pain, and according to some authorities, it is efficacious in lunacy. A 1 in 4 tincture (with rectified spirit) is prescribed, in doses usually of a drachm. Water will not extract any medicinal properties. When the bark (which is the bark of the root) is used in the West Indies as a means of catching fish, it is first prepared by being bruised and mixed with a kind of lime and the refuse of distilleries, and the paste is then distributed into baskets or porous sacks, and floated about in the water, and the effects are soon manifest by a crowd of fish rising to the surface and floating as if dead. From this state of intoxication the large ones usually recover, but the small ones die. It is remarkable that eels are scarcely affected by it.

Kola Nuts are worthy of a moment's attention. These are the seeds of *Sterculia Acuminata*, of the natural order Sterculiaceæ, an order botanically allied to the Malvaceæ. They are imported from Africa, and are now being used extensively as a medicinal agent on account of the caffeine they contain. Thus preparations of kola are given to restore those under the intoxicating effects of alcohol, also as a means of weaning the taste from alcohol. The various species of *Sterculia* seem to be largely used in different parts of Africa as articles of food. It is somewhat remarkable that man should have chosen cocoa, tea, coffee, guarana, and kola as articles of food, while he was ignorant of their chemical constituents and properties; and now that we are advancing in chemical knowledge, all these substances are found to contain caffeine. This is now so well known and so extensively used in pharmacies that we need not dwell upon it, except just remarking that its formula ($C_8H_{10}N_4O_2,H_2O$) indicates that it contains a greater proportion of nitrogen than any yet discovered alkaloid. We will close our notice of kola by referring to a property which is ascribed likewise to species of *Strychnos*, notably seeds of *Strychnos amara* and *Strychnos potatorum*—namely, that of clearing putrid or muddy water by some mechanical action not yet clearly understood. Kola nuts are occasionally heard of as Guru nuts.

Quebracho.—This is an important addition to our materia medica. It is the bark of a large and beautiful tree of South America, sometimes spoken of by travelers as lending an exceedingly picturesque and luxuriant appearance to the landscape. It belongs to the natural order Apocynaceæ, the order to which gelsemium belongs, and nearly allied to Loganiaceæ, the *Strychnos* order. The only British genus belonging to the Apocynaceæ is *Vinca*, and two species only are known—*Vinca major* and *Vinca minor*. In passing I may remark that preparations of *Vinca major* are met with as remedies for hæmorrhage. The wood of quebracho is hard and cross grained, whence the name "quebracho," which signifies "breaking the axe." When this drug was first introduced, it was difficult to obtain samples of the true *Aspidiosperma quebracho*, as the term "Quebracho" was applied by the natives of the La Plata region to a number of woods obtained from different orders which possessed the property before alluded to of "breaking the axe." Hence we find a variety known as the "Red Quebracho" in the market, now generally believed to be obtained from a species of

Anacardium. For some time the value and importance of *Aspidiosperma quebracho* remained in obscurity on this account, and it is only very recently that its properties are becoming investigated and known. It was at first stated that "Aspidiospermine," the name given to the alkaloid, was similar in physiological action to quinine; but this can scarcely be said to be true. Its peculiar value seems to be in asthmatical affections, etc., as a specific difficulty of breathing. In England, America, and Germany, many reports are received as to the good effects of this drug in chest disorders, and I think it promises to become a remedy of acknowledged repute. Besides *Anacardium Loxopterygium*, copalchi bark has been substituted for quebracho, but the distinctive characters are sufficient to point out the difference to any one who has seen the true quebracho. *Croton pseudo-China*, *Croton suberosum*, and *Croton niveus*, are the sources of copalchi. These, of course, are nearly allied to our well-known cascarilla. Of pharmaceutical preparations of quebracho, we must mention the tincture, strength 1 in 12 of rectified spirit, and the compound tincture containing orange peel; these are given in doses of about 1 drachm. A wine, syrup, and extract are also made, the wine being 1 in 18, the syrup about 1 in 8. The alkaloid has been given in combination with cod-liver oil.

CASCARA SAGRADA.—This bark, also known as *Rhamnus Purshiana*, is imported from the Pacific coast of North America, and is a well-known remedy for constipation. As a gentle, yet at the same time safe and certain aperient, without producing subsequent constipation, it stands unrivalled in the opinion of many of our medical practitioners, although at first it met with but a poor reception. As it was introduced to notice by one of the American Eclectic doctors, and as these men are looked upon as "quacks," it is easy to understand that for some time its efficacy should be unacknowledged. But, as time passed on and its action became more generally known, it was used more and more by the profession, until now its preparations are fairly well known to nearly all pharmacists. The tree yielding it, *i. e.*, *Rhamnus Purshiana*, is one of the largest of the genus, attaining dimensions of from 10 to 20 feet in height. There is a noteworthy difference between the three chief varieties of Rhamnus, viz., *R. catharticus*, *R. Purshiana*, and *R. frangula*, in that the fruits of *R. catharticus* contain four seeds, those of *R. Purshiana* three seeds, and those of *R. frangula* only two seeds. All the three contain a principle allied to cathartine and chrysophanic acid, to which the name "Emodin" has been given. A peculiarity about *Rhamnus frangula* appears to be that some chemical change takes place in its constituents when kept, as upon reference to therapeutic notes I find it stated that when fresh it possesses emetic and purgative properties, whereas, when a year or two old, the emetic power has quite disappeared. One investigator suggests that this is due to frangulin becoming converted into emodin. *Rhamnus frangula* derives its name from *frango*, "I break," on account of the brittle nature of its branches. *Rhamnus catharticus* was well known as a medicinal agent to the Anglo-Saxons. Perhaps *Rhamnus Purshiana* (which was named after a Prussian botanist named Pursh), was brought into greater celebrity by the fact that Dr. Bundy, who first introduced it, was a rival of another member of the Eclectic Society, whose favorite remedy was *Grindelia robusta*, but which seems to have become partially exploded. The cascara sagrada preparations in use are the liquid extract, supposed to represent 1 in 1 of the bark, and an extract of pilular consistence. Of the liquid, the dose appears to be from 10 minims to 1 drachm, and of the pilular extract, from 2 to 6 grains. Cascara sagrada is sometimes called "Sacred Bark," or "Sacred Tree Bark."

PAPAW JUICE—This is obtained by incising the unripe fruit of *Carica Papaya*, a native of the West Indies. It belongs to the natural order Papayaceæ, a small order occurring only in tropical climates, and nearly allied to the well-known Cucurbitaceæ. It has long been used by the natives to render beefsteaks tender, and this, I suppose, has led to its introduction into this country as an aid to digestion. The juice evaporated to dryness is the form in which it is met with, when it occurs as a granular powder, soluble in water. From this solution Papine, or Papayotin, is precipitated by alcohol. Papaine is looked upon as the active principle of papaw juice, and its solvent power of fibrin and albumen is considered very high; indeed, it is usually stated that papine will digest two hundred times its weight of fibrin. It is remarkable that it is inactive in acid solutions, in this particular differing from pepsine; while, again, its action is not checked by carbolic acid, which is sometimes stated to render pepsine inert. Papaine is given in doses usually about a grain or two, but occasionally we hear of as much as 8 grains being administered. It is also recommended to be made into a paste with water, and used as a caustic, or perhaps more correctly speaking, a solvent, for corns and warts. Its present high price, however, will prevent a very extensive use, though, doubtless, if it meet with favor in the eyes of medical men, the supply will become more plentiful, and the market value less.

Quinine in Hemorrhagic Malarial Fever.

As tending to prove that quinine is an uncertain and even a dangerous remedy in this disease, often determining an unfavorable result, Dr. E. D. McDANIEL, of Camden, Ala., gives the following summary of 178 cases in the *Med. News*, Nov. 24, 1883. The death-rate in the cases with quinine is 23 per cent. heavier than in those without quinine, an excess greater than the entire death-rate in the cases without quinine. Taking these rates as a basis, if the whole 178 cases had been treated with quinine, there would have been lost 21 lives more than actually were lost under the divided treatment, and 41 more than would have been lost had all been treated without quinine. And on the same basis, if the whole 178 cases had been treated without quinine, there would have been saved 20 lives more than were saved under the divided treatment, and 41 more than would have been saved if quinine had been used in all.

In the same journal, Dr. P. B. MINOR, of Forkland, Ala., says: The accompanying tabulated statement is offered only as a record of facts, and from which the profession can draw its own inferences. The author has so frequently seen the hemorrhage from the kidneys reproduced by the administration of quinine, and all the bad symptoms aggravated thereby, that he has long since abandoned its use *in toto* in this disease. It is hard for the practitioner of the South to look upon any disease of malarial origin and not fly to the old stand-by—quinine—for its relief; but this is undoubtedly a disease in which (in the words of Dr. E. D. McDaniel, of Ala.) "quinine is at best a very uncertain and dangerous remedy, except in very discreet hands."

"By its fruits shall the tree be known." Let those of the profession who have had a large experience with this disease come forward and state the results, with and without quinine treatment.

Case.	Approximate Age.	Color.		Sex		Result.		Quinine.		Attack.			Recovered.		Died.	
		White.	Black.	Male.	Female.	Recovered.	Died.	Taken.	Not taken.	Primary.	Secondary.	Relapsed.	With quinine.	Witho't quinine.	With quinine.	Witho't quinine.
1	6	1			1		1	1		1					1	
2	15	1		1		1			1	1				1		
3	8	1		1			1	1		1					1	
4	6	1			1		1		1	1						1
5	58	1		1		1			1	1				1		
6	18	1		1		1			1	1				1		
7	8	1			1		1		1	1						1
8	18	1			1	1			1	1		1		1		
9	21	1		1		1			1	1				1		
10	25	1		1			1		1		1					1
11	28	1		1		1			1		1			1		
12	17	1			1	1			1	1				1		
13	24	1			1	1			1	1				1		
14	25	1			1	1			1					1		
15	26	1		1		1			1	1				1		
16	27	1		1		1			1		1	1		1		
17	23	1			1	1			1	1				1		
18	12	1		1		1			1	1				1		
19	25	1		1		1			1		1			1		
20	18	1			1	1			1	1				1		
21	14	1			1	1			1	1				1		
22	30	1			1	1			1					1		
23	29	1			1		1	1		1					1	
24	32	1		1		1			1		1			1		
25	17	1		1		1			1	1				1		
26	15	1			1	1			1	1				1	1	
27	50	1		1			1	1								
28	34	1		1		1			1	1				1		
29	8	1			1	1			1	1				1		
30	17	1		1		1			1		1	1		1		
31	40	1		1		1			1		1			1		
32	14	1		1		1			1	1				1		
33	28		1	1		1			1	1				1		
34	32	1			1	1			1	1				1		
35	30		1		1	1			1	1				1		
36	36		1	1		1			1	1				1		
37	7	1			1	1			1	1				1		
38	50	1		1			1	1		1					1	
39	28	1		1			1	1		1					1	
40	25	1		1		1		1		1			1			
41	42	1		1		1		1		1			1			
41		38	3	24	17	32	9	8	33	31	7	3	2	30	6	3

The Therapeutic Action of Minute and Frequently-Repeated Doses.

DR. G. G. ROY contributes the following to the *Southern Med. Record*, September 20, 1883: About a year ago, a young lady from one of the lower counties of Georgia was placed under my care for the treatment of a long-continued uterine trouble, with obstinate amenorrhœa.

After an operation upon the cervical canal—which relieved what was apparently the great trouble in her case—the obstinate amenorrhœa continued, with great irritability of the stomach, in the face of the usual remedies administered in the ordinary doses for this sometimes exceedingly troublesome disorder.

Acting upon the suggestion of Ringer and others, I put the patient upon one-drop doses of the fluid extract of ergot every hour, with instructions to take two doses every two hours should she forget or from any cause fail to take the medcine every hour. This she did for a week or ten days, with improvement more prompt and satisfactory than I had anticipated.

From such satisfactory results, with minute doses of ergot, and still following the suggestions of Sydney Ringer, Bartholow, and other modern therapeutists, I continued to prescribe minute and often-repeated doses of other medicines, with a similar satisfactory result.

In cases of engorged liver, with irritable stomach, and frequently in a condition of that organ amounting to severe catarrh, I used calomel in the doses of from 1–12 to 1–5 of a grain, combined with a little bicarb. of soda, and administered it every two to three hours, with the effect of arousing the secretions and relieving the engorged capillary condition of the organs involved, more promptly, more effectually and with less distress to the patient, than it has been my good fortune to obtain with the ordinary larger doses administered in the usual way.

I have, too, succeeded in relieving bilious headache resulting from obstinate constipation with Warner & Co.'s granules of minute proportions of aloin, strychnia and belladonna, administered several times during the day for a week or ten days. And long anterior to the knowledge of the existence of these preparations of Warner's, I have succeeded effectually in relieving obstinate constipation with the extract of belladonna alone, administered in doses of 1–20 to 1–10 of a grain three times a day, and perseveringly continued until the desired result was manifest.

It is well to say, just here, that in some cases of obstinate habitual constipation our patience will become quite threadbare, and tired of waiting to see the desired effect of this remedy in these cases; but we must cling to the Latin maxim of "Perseverentia," etc., and my word for it your labor will not have been in vain, and you will live to see the day when your patients will begin to feel and look a little threadbare in flesh if the remedy is continuously persisted in.

I have also used this remedy—extract of belladonna—in similar small doses, but more frequently repeated, in facial and other forms of neuralgia, with marked relief to my patients.

In truth, I believe that the therapeutic value of belladonna as a remedy in many of the neuroses, and in these conditions in which the muscular fibrillæ of the intestines and other viscera of the abdominal and thoracic cavities have borne as great a tension or strain as it is possible for them to bear without a tranquilizing and tonic relief, is but poorly appreciated. Much of the prejudice against this medicine, which has, for a long time existed with the regular profession, has been due to the extraordinary and miraculously vaunted virtues of the drug by the homeopathist and other irregular practitioners. Nothing so quickly injures a good cause as to be championed by disreputable advocates.

The resin of podophyllin is another remedy which has been given in minute doses, $\frac{1}{10}$, $\frac{1}{20}$ and $\frac{1}{40}$ of a grain, with great satisfaction, for the relief of obstinate constipation, torpid liver, and all the unpleasant train of dyspeptic symptoms resulting from these conditions.

In doses of $\frac{1}{40}$ of a grain night and morning—not sufficient to produce any purgation—podophyllin has been highly recommended for what has been termed its alterative effect; and a recent writer in the Chicago *Medical Times* says it is highly useful in a case like this, *i. e.*, " A busy, worried, overworked man, who takes perhaps too little exercise—feels all day, but especially in the morning, dull, depressed; his mind inactive and indolent, and he is irritable. He has, perhaps, a stupid feeling; he is often bilious-looking, and is dark around the eyes. Now, these symptoms, no doubt, often accompany sluggish bowels, and can be relieved by any purgative, but they not uncommonly occur where the bowels are regular and the motions natural in color. *In all such cases* the small non-purgative doses of podophyllin are most serviceable."

Aconite is another remedy whose administration in minute doses has given excellent results, "especially for the purpose of reducing temperature and checking inflammatory process." This remedy receives the highest recommendation from both Ringer and Bartholow. The latter speaks of it as a powerful agent which will produce manifest results in small doses.

Nux vomica, according to Ringer, is possessed of real curative powers for sick-headache accompanied with acute gastric catarrh, whether due to error in diet, constipation, or no apparent cause. He also regards it, administered in small and frequently repeated doses, as useful in many disturbances of the gastric function.

A New Alkaloid in Cannabis Indica.

In the *Am. Jour. of Pharmacy*, July, 1883, Dr. Hay writes as follows: Cannabis indica, or Indian hemp, is exceptional as a narcotic plant in respect of no alkaloid, possessing the action of the plant, having been as yet separated from it. The so-called cannabine obtained by T. and H. Smith, of Edinburgh, many years ago, and said by them to possess the active and narcotic properties of the cannabis, is certainly not a pure principle, and is, probably, a mixture of resin with varying proportions of the narcotic principle. It possesses almost solely the characters of a resin, and is described by the Smiths as such; but were it the true active part of the plant, it is certainly far removed from all other narcotic principles, inasmuch as none of them is chemically related to the class of resins. One specimen of cannabin which I obtained some time ago from Merck, of Darmstadt, and which I was given to understand was prepared exactly according to Smith's process, possessed little or no narcotic action.

A few years ago, Preobraschensky (" Pharm. Zeitsch. f. Russland," 1876, p. 705,) made a chemical examination of a quantity of haschisch which he brought with him from China, whither, in 1873, he had accompanied an expedition, and was enabled, according to his own statement, to separate from it a volatile alkaloid, which he held to be identical with nicotine, and which he believed to be the active part of the cannabis. This, in view of the distinctive and very different action of cannabis, was somewhat remarkable. It is highly probable, as has been suggested by Dragendorff and Marquiss ("Pharm. Zeitung," 1877), that the haschisch used by Preobraschensky was mixed with tobacco, which it often is in Eastern countries.

Recently, Louis Siebold and Bradbury have reported to the British Pharmaceutical Conference (1881) that, after an elaborate investigation, they have arrived at the conclusion of Dragendorff and Marquiss, and that in the course of their investigation they made the interesting discovery that pure cannabis does actually contain a volatile alkaloid, which does not however, possess the characters of nicotine. They separated it in very small quantity, obtaining not more than 2 grains from 10 pounds of Indian hemp. They give to it the name of cannabinine. They record no observation as to its physiological action; and they, therefore, leave it doubtful as to whether this volatile alkaloid is the narcotic principle of cannabis.

It is evident from these and many other researches, that it is no easy task to arrive at correct conclusions as to the active principle of cannabis indica.

A considerable time ago, I commenced a chemical examination of this drug, at the suggestion of Professor Schmiedeberg, of Strassburg, the results, so far, of which lead me to believe that cannabis indica contains several alkaloids. In a future communication I hope to be able to give an exact description of the distinctive characters and toxic action of each. In the meantime, I shall content myself with the description of one which I have obtained in a considerable degree of purity, and one which, rather remarkably, possesses an action similar to that of strychnia. It is evidently, therefore, quite a secondary alkaloid of the cannabis, and reminds one of the thebaine of opium.

This alkaloid was obtained from a watery infusion of powdered cannabis indica, by treating it with a solution of subacetate of lead, and filtering. To the filtrate was added ammonia, and the precipitate removed by filtration. The filtrate, acidulated with sulphuric acid, was now treated with a solution of phospho-wolframic acid in order to precipitate the alkaloids present. The precipitate, which was fairly abundant, was, after the fluid had been removed by filtration and washing with dilute sulphuric acid and pressing, mixed with barium hydrate and water, which formed an insoluble wolframate, and set free the alkaloids. The filtrate was now deprived of its excess of barium by means of a stream of carbonic acid gas, and again filtered. The filtrate was at a gentle heat evaporated almost to dryness, and acidulated with sulphuric acid and treated with absolute alcohol. The sulphate of the alkaloids thus formed was partially soluble in alcohol, partly not. It was from the soluble part that the alkaloid in question was procured. The sulphate was converted into a chloride by treatment with barium hydrate, afterwards with carbonic acid to remove excess of barium, and, finally, with hydrochloric acid to neutralization. The chloride was evaporated and treated with absolute alcohol, in which it in part dissolved. From the solution, by addition of excess of carbonate of soda and frequent shaking with ether, an alkaloid was obtained in the form of colorless needle-like crystals.

The alkaloid was easily soluble in water, soluble also in alcohol, and more slowly soluble in ether and chloroform. It caused tetanus in frogs in exactly the same manner as strychnia, increasing the excitability of the reflex centres of the spinal cord. It did not give a violet color with sulphuric acid and bichromate of potash. It was, therefore, although similar in action to strychnia, not chemically identical with it. A solution of it in water was precipitated by the various alkaloidal precipitants, platinic chloride, iodide of potassium and mercury, phosphotungstate of soda, phospho-molybdic acid, phospho-wolframic acid, etc.

Although I obtained the alkaloid from 1 kilogram of cannabis, yet the quantity of it was so small, that it was insufficient for an elementary analysis.

To this alkaloid I propose to give the name of tetano-cannabine, as indicative of its action.—*Phar. Jour. and Trans.*, June 2, 1883, p. 998.

*On Cinchocerotin.**

We take the following from the *Am. Jour. of Pharmacy*, July, 1883: Under the name of *cinchocerotin*, **Kerner** exhibited at the world's expositions in Paris and London, in 1859 and 1862, a constituent of the cinchona bark which had been discovered by him. With regard to the method of preparation of cinchocèrotin, Dr. Kerner has communicated the following to Prof. Flückiger:

"Flat South American calisaya bark was dried with milk of lime, extracted by boiling alcohol, and the liquid cooled. The cooling of the liquid was effected in copper tubes, through which the solution was slowly conducted. After from six to nine months, the tubes were incrusted with crude cinchocerotin."

The crude cinchocerotin is a brown mass, from which two different constituents may be prepared, viz.: a crystalline white body, readily soluble in alcohol, and, in much smaller amount, a whitish-yellow substance, sparingly soluble in alcohol. The latter is likewise sparingly soluble in ether, chloroform, benzol, and the more volatile portions of petroleum; but, on the contrary, is more readily soluble in boiling amylic alcohol and xylol, from which solutions it separates in an amorphous form on cooling. It is decomposed at 230° C., without melting, and forms by heating with glacial acetic acid a white, crystalline acid which melts at 54° C., and is readily soluble in alcohol, ether and petroleum (b. p. 60° C.). This acid forms sparingly soluble barium, lead and calcium salts, and soluble salts with the alkalies. Further experiments could not be made, as only a small amount of material was at hand, and by the present method of conducting the quinine factories, the cinchocerotin is no longer obtained.

The first-mentioned crystallizable substance, for which the name cinchocerotin may be retained, forms white, very light, crystalline scales, which, when heated upon platinum-foil, burns without any remarkable odor. The melting point is at 130° C.; when more strongly heated, it partially sublimes with decomposition; if, however, carefully heated in a current of carbonic acid, it sublimes without decomposition. It dissolves readily in ether, chloroform and alcohol, but does not dissolve by boiling with water, hydrochloric, dilute sulphuric, and glacial acetic acids. By boiling with a solution of carbonate of sodium or caustic soda, it is not attacked, and also not by alcoholic soda; with concentrated sulphuric acid it gives a reddish-brown solution. By the action of nitric acid it is converted into a yellow resinous-like body; and by the action of bromine a brown, uncrystallizable substance was obtained. When melted with potassium hydrate, cinchocerotin becomes yellow, but does not mix therewith; and when more strongly heated it volatilizes partially with decomposition.

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* By A. Helms. Abstracted from "Archiv. der Pharm." Bd. 221, Heft. 4, 1883; pp. 279–285. By Dr. Fred. B. Power.

The analysis of cinchocerotin afforded numbers corresponding to the formula $C_{27}H_{46}O_2$. By oxidation with potassium bichromate and sulphuric acid, a green liquid and a green precipitate were obtained. In the liquid, by distillation, acetic and butyric acids were detected; from the green precipitate by solution in caustic soda and supersaturation with an acid, a yellow precipitate was obtained, which, when washed and dissolved in alcohol, had an acid re-action, and afforded upon the evaporation of the solution, small, wart-like crystals, which may be designated as *cinchocerotinic acid.* After recrystallization the acid melted at 72° C., and afforded upon analysis numbers corresponding to the empirical formula $C_{16}H_{32}O_2$.

From the above results it is manifest that cinchocerotin is not a wax or a fat, and undoubtedly possesses a very high molecular weight. To conclude from its properties and its occurrence, the author believes it capable of being classified in the neighborhood of betulin and cerin.

Douches of Compressed Air.

The *N. Y. Med. Jour.*, November 3, 1883, says that M. Maurice DUPONT has obtained good results ("Bulletin Général de Thérapeutique," September 30, 1883,) from the therapeutic use of douches of compressed air. M. Dupont believes that aërotherapy need not be confined to the treatment of diseases of the lungs and respiratory passages, but that it may be applied effectively to various affections characterized by perverted nutrition. By the influence, mechanical and chemical, of an atmosphere more dense and richer in oxygen, it is possible to increase, decrease, or modify the processes of nutrition when they are perverted. He has extended the methods of application to embrace baths and douches, in order to make use of the mechanical force of compressed air as an agent of "flagellation," and the cold produced by its liberation as a refrigerant. The douche of compressed air, applied like the douche of water, is of benefit to patients of delicate constitution, who would be proper subjects for hydropathic treatment, if they reacted better after the use of cold water. M. Dupont employs compressed air douches under a pressure of three atmospheres. The air is conducted through a pipe of canvas and caoutchouc, provided with a nozzle eight to ten millimetres in diameter at its orifice. The jet of compressed air is directed against the patient, who lies stripped upon a couch.

The results are: 1. "Flagellation;" deep depression of the integument where the air strikes it; displacement and gliding of the superficial upon the deeper tissues; veritable *massage*, which sends back the blood in the vessels from the periphery to the center.

2. Cooling of the skin and rapid reaction due to the energetic flagellation, which brings a glow to the surface. The patient, as soon as douched, dresses himself, no friction being required to warm him up. Not having been wet, he is not exposed to the evaporation which follows the use of water, and which, by the

subsequent re-chilling it causes, is liable to neutralize the good gained by the reaction. If, however, the patient be vigorous enough to justify it, the lowering of temperature by the douche may be made still greater by mixing a little water with the air. The water is thrown in a finely-divided condition, and the current of air produces a very rapid evaporation, and therefore a marked reduction of temperature. Indeed, this may be carried low enough to produce local hemianæsthesia. The douche not only leaves a feeling of warmth all over the surface, but it produces a marked sense of freshness and vigor. However great the reduction of temperature may have been, a reaction will almost invariably follow, and follow almost immediately. The anæsthetic properties of the douche may be increased by mixing carbonic acid gas with the air. M. Dupont believes that the douche of compressed air is indicated in; 1. Pulmonary tuberculosis, chlorosis, anæmia, obesity, rachitis, etc., to increase the activity of the nutritive processes. 2. Œdema, hydrarthrosis, ankylosis, etc., to improve the circulation and favor the absorption of effused liquids. 3. Various cases of paralysis, as an adjuvant to electricity. 4. Hyperæsthesia, hysteria, contracture, etc.

Plantain as a Styptic.

J. W. COLCORD thus writes of it in *New Remedies*, November, 1883: Believing that better results would be obtained from fresh plants than from dried, I expressed the juice from them by means of an "Enterprise mill," obtaining about 16 fluid ounces of juice from 3 pounds of leaves. The juice was of a light-green color, very turbid, evidently caused by a large amount of chlorophyll. Setting aside 4 ounces of the filtered liquid for further experimenting, I packed the residue from the press into a conical glass percolator and exhausted with dilute alcohol, evaporating the percolate in a water-bath to two ounces, mixing with the 12 ounces of expressed juice and adding 2 ounces of alcohol. This preparation, which I call a fluid extract, represents virtually equal parts by weight, of the dried plants. It is of a dark-brown color with a marked odor of the recent plant, and so far, after standing three months undisturbed on my shelves, shows no sign of precipitation.

My next experiment was a mixture of equal quantities of the expressed juice with glycerin. At the present time, after standing three months, the mixture is clear and bright, with no sign of precipitation. This I think promises to be the most efficient preparation, and will prove valuable as an injection in the treatment of leucorrhœa, hemorrhages, and similar disorders.

Experiment number three was made with equal parts of the juice and alcohol, and number four with three parts of the juice with one part of alcohol.

In a short time a precipitate was observed in both samples in about equal proportions, and was removed about one month after making by filtering through paper, and neither has shown signs of precipitation since, and continue bright, clear, light-brown liquids.

Of their therapeutic value as styptics, I have not had sufficient trial to form an opinion, though, as far as I can judge, they have proved satisfactory. While writing this article, a cook from a neighboring restaurant, with a finger sliced off in a potato slicer, exposing the bone, came in for treatment. Having bandaged I applied the glycerate, which soon stopped the profuse bleeding, giving her a small bottle of it to apply subsequently. I asked her to report to me in two or three days and, on reporting, I found a healthy granulation presenting. Its styptic properties are undoubtedly due to tannic acid, as all the tests I have been able to make prove this to be the case. The readiness with which it can be obtained in the summer renders it a valuable adjunct, undoubtedly, to the materia medica of the country practitioner or housewife for stopping hemorrhages in simple wounds.

The bruised leaves applied directly usually prove sufficient for the purpose; as to whether it will prove sufficiently valuable to add to our list of pharmaceutica preparations will require longer and more extended experiment.

Oleum Lini in the Treatment of all Wasting and Pulmonary Diseases.

In the *Cinn. Lancet & Clinic*, Oct. 20, 1883, Dr. JOSEPH A. STITES says: I have found that it never disturbs the organs of digestion or its function. In treating pulmonary troubles I gave it to my patients as food, or as a nutrient substance instead of cod-liver oil or any of the emulsion preparations. I found that the patient did not thrive as he ought to, according to the quantity he was taking, as the rule is laid down continue for some time, push it that far until you produce a diarrhœa discharge from the bowels, and then stop. As we all know, this is the old rule, and the patients are now getting tired of taking such nauseating doses. In private practice I have found by giving the Ol. Lini in combination with honey and any of the malt preparations, it is palatable, viz:

℞.—Oleum Lini (raw)	℥ j,
Mel Rosæ.	℥ ss,
Maltine, q. s	℥ iv.

M. ft.

Sig.—Tablespoonful three times a day.

For children, of course, according to the age, the dose would be a teaspoonful. The exhausting diseases of children after a severe attack of fever, or in the exhausting stages of whooping cough, or in any pulmonary affection. My little patients did not seem to feel the debilitating effects of convalescence after an exhausting attack of sickness.

I have also added a little spts. vini Gallici opt., or spts. frumenti, to the above prescription. It is very good, it facilitates the digestion, and, of course, it is a stimulant.

Lay aside cod-liver oil and try the fine preparation of oleum lini. It can be given in small doses. The smell and taste disguised, it can be given with any stimulant, and what is our reward? The patient takes his medicine, complains none about it, and gains flesh. I am speaking now of general debility when flaxseed oil is given. What do we find in pulmonary trouble? The cough decreasing and the general aspect of his face looking better; has not that hollow, sunken appearance, his face appears fuller than usual; weigh him, and he has increased in weight. Whereas, cod-liver oil produces diarrhœa, no gain in flesh nor weight, the aspect of his face unchanged, the nauseating, unpleasant odor of oil both distasteful and useless.

Rhus Toxicodendron as a Remedy for Rheumatic Inflammation of the Sheaths of Nerves and Tendons.

In the *Cinn. Lan. & Clinic*, Dr. THOMAS GIFFORD recommends *Rhus toxicodendron* as a curative agent of the "greatest certainty" in some forms of chronic rheumatic affections of fibrous tissues. For instance, what is commonly termed "sciatica" may be a pure neuralgia of the sciatic nerve, or it may be a rheumatic inflammation of the sheath of that nerve. In the neuralgic form, rhus toxicodendron is not *the* remedy; but in the rheumatic form it is of marked efficacy, if used according to certain directions. The powdered leaves, the infusion and the extract are nearly inert, and therefore, the drug has fallen into disrepute. Dr. Gifford pursues the following plan: During the last week of May or the first week of June he gathers the leaves of the *Rhus toxicodendron* (the *Rhus radicans* will not answer). If practicable, leaves grown in a shady place are selected, and they are gathered after sunset on a damp, sultry day. They are cut fine and macerated two weeks, in a colored bottle, with deordorized alcohol, 95 per cent., in the proportion of one part of the leaves to two parts of the alcohol. The filtered liquid, which should be kept in well-corked colored-glass bottles, contains concentrated *toxicodendric acid*, in which the medical properties of the plant reside. This is to be diluted with pure deodorized alcohol on the decimal scale. Two drops of the third dilution, taken night and morning, will act beneficially within forty-eight hours on the rheumatic form of the disease. When the pains have abated somewhat, one dose at evening is to be taken until the cure is complete. "This may look like small dosing," he says, "but I have found one case in which it was too large, and none where it was too small." In the case referred to, marked rhus poisoning occurred on the third day. After more than twenty years' experience with *Rhus toxicodendron*, Dr. Gifford has come to the conclusion that it exerts a decidedly curative action on diseases of the fascial sheaths of nerves and tendons. Rhus poisoning may be promptly and certainly controlled by freely applying *Lobelia inflata* externally (two parts of the fluid extract to one of pure glycerin), and by small doses of aconite and belladonna, internally, given alternately every two hours until the itching and burning abate.

Depilatories.

New Remedies, Oct., 1883, says: Sprinkle over 100 parts of good quick-lime, about 50 parts of hot water, and, when slaked, triturate with 200 parts of cold water. Place in a suitable flask, and pass into it the hydrogen sulphide generated from 200 parts of sulphide of iron and 200 parts of sulphuric acid gradually introduced into the generator. This preparation must be immediately placed into small vials, and securely sealed; but even then it will lose its virtues after a few weeks. This was originally recommended by Bœttger, but is sometimes known as "Martin's Depilatory." This paste is to be spread over the hairy skin to the the thickness of one-sixteenth of an inch, and allowed to remain for ten minutes, when it is removed with a wet sponge. When allowed to remain too long, bad sores are apt to result.

Another, known by the Turkish name "Rusana," is composed of 50 parts of quick-lime, 30 parts of starch, and 5 parts of orpiment. This is to be made into a paste with water, and employed in the same manner as the foregoing.

[Of late years dermatologists have resorted to a method for removing hairs which is less likely to be followed by disfigurement, and is more radical in its effects, though involving more labor, and requiring the aid of a skilful person. A fine platinum needle mounted in a suitable handle serves as one electrode for a galvanic battery, the other electrode being a moistened sponge. The sponge is placed upon any convenient part of the body, and a single hair, being grasped with forceps, serves as a guide to direct the needle to the bottom of the hair follicle. After the needle has been introduced, connection of the galvanic circuit is made, and, after a few minutes, the root of the hair is destroyed by electrolysis, as shown by the escape of gas and by loosening of the hair, which comes away in the grasp of the forceps.

Dr. L. D. Bulkley, of New York, has proposed another method (see *New Remedies*, 1881, p. 157), which consists in applying to the skin an adhesive plaster made in the form of a roll, which adheres to the hairs, and, on being rolled across the surface, pulls them from their sheaths.

The latter method does not prevent the subsequent reproduction of the hair.—*Ed. New Remedies.*]

Bromide Salts for Abdominal Neuroses.

In the *Brit. Med. Jour.*, October 20, 1883, Dr. JOHN KENT SPENDER thus writes. For an elderly widow lady, tormented rather often with "emotional diarrhœa," I prescribed a few years ago some ordinary astringent remedies, with minute doses of opium, to be taken according to her needs. But, for another malady, sleeplessness, I gave occasionally moderate quantities of bromide of potassium. She discovered, however, that the latter remedy did her diarrhœa more good than anything else, and that, whenever it was taken at bedtime, the next day passed without any alvine looseness.

Fourteen years ago, Dr. J. Waring Curran recommended potassic bromide for the vomiting of pregnancy; but its real value could not be determined, as other things were combined with it (*Medical Press and Circular*, July 14th, 1869): But I have given the medicine in its pure form, and simply dissolved in water, and never without marked, though perhaps only temporary, success.

The distant echoes of cholera justify us in recalling some important observations by the late Dr. James Begbie, who spoke of bromide of potassium as able to strip that dread disease of some of its terrors (*Edinburgh Medical Journal*, December, 1866). He gave it in the earlier stage of collapse, and in quantities of twenty or thirty grains, at hourly, or even half-hourly, intervals; and he records the cessation of vomiting, the arrest of cramp, and the speedy return of warmth and colour to the previously cold and livid surface. He tells us that the medicine was tried fairly, both in the Leith and Edinburgh Cholera Hospitals, and that its use in both institutions did not disappoint expectations. It is good to feel better fortified against the most painful and mortal of all abdominal neuroses.

Lastly, I may glance at the use of the bromide in the treatment of saccharine diabetes. Here again Dr. Begbie started a line of therapeutic inquiry which has been successfully worked by other practitioners; and, at this moment, I have under my care a lady, between 50 and 60 years of age, whose special diabetic symptoms are clearly kept much in abeyance by a large dose of bromide of ammonium every night. Would this illustrate what has been called the "alterative and absorbent effects" of the bromides on the liver?

The Treatment of Diphtheria.

Dr. Alfred Carpenter thus discourses in the *Lancet*, Sept. 15, 1883: The treatment has been the use of ammonia as the proper stimulant, so as to reduce the acidity of the blood; for I have generally found these cases in constitutions which are either rheumatic with the lactic acid diathesis, or gouty with an excess of lithic acid in the constitution. I have generally given alkalies, as lithia or potass in combination with it, and when there has been an elevated temperature, which has indicated excessive chemical action in the invaded part, I have given the sulpho-carbolate of soda with the greatest possible benefit. This salt reduces temperature, most likely by its anti-parasitic power, for as soon as a few doses have been given the fever subsides, and the patient is much relieved; but if the medicine be left off too soon there is certain to be a relapse. This is very disappointing, and if the practitioner is disheartened and tries another remedy the patient will probably die; but if he continues the sulpho-carbolate, he will ultimately destroy all the developing resting spores in the tissues of his patient, and lead him on to a perfect recovery. It is curious how in these cases organ after organ becomes involved in the disease; it is also curious, but highly satisfactory, that the congestions or embolisms follow one another in point of time—otherwise there would be very little chance for the patient to recover. I would urge the practitioner to continue the sulpho-carbolate in small doses, first with the ammonia, and, after a time, with quinine, avoiding altogether the mineral acids, as such appear to allow of a more rapid development of resting spores and a further relapse. As regards the local treatment of diphtheria, I have been accustomed to treat it on scientific principles, and attack the disease just as my gardener attacks the oïdium upon grapes, and parasitic diseases upon vegetables generally. I apply the powder of washed sulphur to the throat very frequently, blowing it into the fauces, and applying it by means of a brush with a little glycerine or honey, alternating the application with a little sulphurous acid in solution. It is not a painful application; it destroys the mycelium and the ordinary spores which produce the disease; if this is done quickly, so that the growths do not penetrate to the deeper tissues, no resting spores will find admission to the body, and there will be no following sequelæ. I have also been accustomed to advise that creasote be kept in the room, so that the air may be placed in that condition which diminishes, if it does not destroy, the growth and development of hyphomycetous fungi.

A Novel Method of Bleeding.

Dr. Charles Coppinger relates this case in the *Brit. Med. Jour.*, Sept. 15, 1883: I was asked, some time ago, to visit a lady in the country—a fat, full-blooded person, over fifty years of age, who had been complaining of various nervous affections. Twenty-four hours previously to my visit, she had, without anything which could be called "a fit," dropped into a state of stupor. When I saw her, she was asleep and breathing heavily; but she could be roused by speaking to her, and made to answer questions in a stupid fashion; after which, she relapsed into sleep. She presented all the symptoms of high arterial tension, and an overloaded vascular system; and the treatment seemed clearly indicated. She was induced to swallow a strong purgative; and, as leeches could not be procured without great delay, the advisability of blood-letting was recognized by the local medical man in attendance and myself. The friends of the patient, however, who were ladies, seemed greatly surprised at the idea. They stated that the lady had been in the same condition before, and recovered; and also that an eminent physician had attributed all her symptoms to weakness, prescribing the most nourishing food, etc. They consented to the "operation," but they were obviously horrified at the idea.

Under the circumstances, I determined to adopt the following device, the accomplishment of which was facilitated by the fact that the patient chanced to have been treated, a short time before, for hemicrania, by hypodermic injections of morphia. She was roused up, and told that "the needle" was to be inserted into the skin of her neck, to which she at once consented. The needle, not of a hypodermic syringe, but of an aspirator, was then introduced into her left external jugular vein, which was much distended, and four ounces of blood were withdrawn without difficulty. The result was so satisfactory that, after half an hour, I repeated the puncture, and drew off in the same fashion the full six ounces, which the aspirator was capable of containing.

The patient recovered, and neither she nor her nervous lady friend in the room had any idea that she had been bled, until the matter was subsequently fully explained to them.

Terbromide of Arsenic.

In the *Drug. Cir. and Chem. Gaz.* we read that the solution of this substance has obtained some celebrity on account of having been found to act in a beneficial manner in the treatment of diabetes. Having had occasion to prepare it, I thought it might be of interest to give a short account of the method employed by me. The terbromide of arsenic was made in the following manner:

Take of—

Metallic arsenic	77 grains.
Bromine	240 "

Having placed the bromine in the bottom of a long test-tube immersed in ice-water, add the arsenic in powder in small portions at a time, agitating gently after each addition, and allowing the mixture to become cool before adding more of the metal; after the whole has been put into the tube, close this with a cork, remove from the water, and occasionally agitate during the six hours; then pour into a suitable glass-stoppered vial. Terbromide of arsenic is a dense, orange-colored liquid, slightly volatile at ordinary temperatures, but entirely so by application of heat with the production of yellow pungent fumes.

The solution referred to is made by taking of—

Terbromide of arsenic	100 grains.
Distilled water	10 fl. ounces.

Mix and dissolve.

This forms a canary-colored liquid, having an odor that recalls that of chloral.

The dose which has usually been given has been two drops, containing the twenty-fourth of a grain of the arsenical salt, repeated every four hours.

In preparing the terbromide, great caution is necessary, as the action of bromine on arsenic is very violent; and unless great care is taken, so much heat is produced upon the addition of the metal that it becomes red-hot, and copious fumes of the bromide of arsenic are given off, which of course are very poisonous.

Piscidia Erythrina as a Substitute for Morphine.

The *N. Y. Med. Jour.*, Oct. 27, 1883, says that M. LANDOWSKY (*Gazette hebdomadaire de médecine et de chirurgie*, August 31, 1883,) has found in a few experimental cases that *Piscidia erythrina* possesses valuable sedative and narcotic properties. It is a leguminous plant, which grows in the volcanic soil of Jamaica. It takes its name from the property it has of narcotizing fishes—a property which the natives have long put to practical use. In the case of a physician suffering from severe toothache, three grammes of an alcoholic extract of the bark (one part of bark to four of alcohol), were followed by a calm sleep of twelve hours, which did not leave any dullness or other disagreeable after-effects. In the case of six patients, suffering from various painful affections, M. Landowsky used *Piscidia erythrina*, instead of morphine, with happy results. "Without being conclusive, because of their small number, these experiments are nevertheless encouraging. If they result as it is hoped they will, our materia medica will have a precious substitute for opium, with, moreover, this advantage, that it does not cause headache or other malaise, and does not constipate."

Professor Ott, of Easton, Pa., ranks piscidia as a narcotic to which both the higher and lower animals are susceptible. In his hands it dilated the pupil, diminished the number of the respiratory movements, produced free salivation and diaphoresis, and lessened the frequency of the cardiac pulsations. In large doses it produced general paralysis and death from asphyxia. He found it to resemble morphine in many respects. He believes it can be used to advantage as an analgesiac and hypnotic in neuralgia.

Dr. Otto Seifert, of Würzburg, has observed good effects from piscidia in the obstinate cough of phthisis.

Turpentine to Solidify Aneurisms.

Dr. BRINSLEY NICHOLSON thus writes in the *Med. Times and Gaz.*, Nov. 10, 1883: A soldier was affected with aneurism, just where the artery dips down into the popliteal space. A well-fitting compressor compressed the artery at the usual point in Scarpa's triangle, and there existed a pulseless, but fluid, aneurism, about the size of a swan's egg, but without any symptoms of giving way. I found that the compressor had been on for at least three weeks—but without any coagulation having been observed. His diet had been low. His pulse also was not strong. Thinking it better that he should have a more generous supply of food, and one containing more vegetables, with a little light wine, I found that he was constipated; and therefore, as one of the quickest and least depressing, if not stimulant, medicines, ordered him a terebinthinate enema.

Next morning, on examination, I found the tumor not only solid, but firmly so. On the third forenoon it had become fluid in its upper part, to the amount, say, of rather more than a teaspoonful. I heard nothing more of the case, except that some time afterwards the limb was amputated above the aneurism.

The coagulating power of turpentine had been known to me; but, when giving it inwardly, I was not prepared for such and so sudden an effect in an aneurism at rest. No doubt I should have followed up the enema by giving turpentine by the mouth; but the result being an apparently firm solidification of the tumor, and it being to me a wholly new experience, I waited too long. I venture, however to think that the result is worthy of being borne in mind in any similar case, and bettered.

Iodide of Potassium in Typhoid Fever.

Dr. R. N. Barbour has treated twenty-six cases, with the most favorable results, as follows, which he publishes in the *Louisville Med. News*, Nov. 17, 1883:

When the diarrhœa was not well marked, I gave castor-oil and glycerine, āā ℥iv, to relieve the bowels of all ingesta and irritative secretions; after this v gr. of potassium iodide were given every four hours, largely diluted with water. Between the doses of the potassium, four drops of the oil of turpentine in mucilage were also given. When diarrhœa was persistent, five drops tincture of opium were added to each dose of the turpentine until the diarrhœa was checked. The bowels were rubbed three times a day with equal parts of olive oil and turpentine, and a flaxseed poultice was kept on the abdomen as long as tenderness remained. The extremities and body, when dry and hot, were sponged frequently. I required the bowels to be moved every thirty hours, to prevent the accumulation of acrid secretions. The diet was strictly fluid, and in small quantities at a time. Buttermilk was substituted for water, if the patient preferred it. This has generally agreed well with the stomach, and has produced no diarrhœa. On the sixth or seventh day of treatment the skin becomes gently moist, and on the following day the temperature begins to decline, and to continue to do so. The temperature is normal on the twelfth day of treatment. The tongue continues moist throughout the continuance of the disease.

I claim that this treatment arrests the congestion and inflammation in the first stage of the fever, being the ulcerative stage prevented.

There has been no relapse in any of the above cases, and no other remedies but the potassium and turpentine were used, neither quinine nor stimulants being given.

Salicylate of Soda in Diarrhœa.

The *Amer. Practitioner*, October, 1883, tells us that Dr Calleza says, in an article on the use of salicylate of soda in fermentative diarrhœa:

1. That the products of the putrefaction of the materials which pass through the digestive canal cause not only a great number of diarrhœal states evidently idiopathic, but also many cases of secondary diarrhœa, in which a preëxisting disease has engendered a disposition to putrefaction, which is developed under the least abnormal influences.

2. Salicylate of soda is the most efficacious agent for the prevention of putrefactive fermentation in the intestinal canal, without causing troubles of the normal metamorphosis of digestion. It should always be employed when there is a

great fetor of the stools, especially if this characteristic has been noticed at the commencement of the trouble.

3. An amount varying from grs. xxx. to xlv. per diem, given in two or three doses, is sufficient to cause rapid cure of putrefactive diarrhœa, when it is idiopathic in the whole sense of the word.

4. In those cases which are really secondary (and they form a very small number), salicylate of soda may also be used with advantage.

5. In syphilitic and phthisical diarrhœas, and in those which accompany visceral abscesses—and especially abscesses of the liver—and dysentery, salicylate of soda has given the best results. *(L'Union Med. du Canada.)*

Phenic Acid.

The *Chicago Med. Jour. and Ex.*, August, 1883, says that Van Hoye has written a thesis with a great conviction acquired through numerous series of experiments, some of them personal. Here are the principal conclusions—doses of phenic acid with no action on the normal temperature, are sufficient to lower a febrile one, and the lowering is effected in all febricitants, as much in single phlegmasia as in the infective pyrexia. The decrease of temperature commences immediately after the absorption of the remedy; it oscillates from 1 to 3 degrees centigr. When the antipyretic action of the preceding doses is exhausted, a rigor and all the phenomena of a febrile attack comes on; in the same time the temperature rises to the primitive degree, and probably higher. When a new dose is administered in time, it may stop the attack, or prevent it. Sufficient doses to produce the full antipyretic effect, have no immediate effects on the fever. In the beginning of the fever fifty centigr. given by the rectum are sufficient in all cases. In general the dose can be progressively increased to 2 grams at a time, and 12 grams a day. One gram given at once has been sufficient in some individuals, of a special susceptibility, to produce a thermic depression, even down to 34.5°, centigr. Such an exaggerated lowering has had no ill effects in any of the febricitants. Pulmonary congestions are to be feared and avoided. The antipyretic properties of phenic acid are to be reserved to combat the hypertherma of the continued and intermittent fevers.—*Rundschau.*

Mercuriform Amide.

The Vienna correspondent of the *Med. News*, Oct. 13, 1883, says: Mercuriform amide is the name of the remedy which Prof. Neumann is now trying upon a large scale as an anti-syphilitic. The agent was produced early in the present year in Liebreich's laboratory, but the process of its manufacture is a secret. As received in Vienna from Berlin, it is a one per cent. solution, and is without color or odor.

The remedy is exhibited hypodermically in quantities of 1 c. c. While the drug is efficacious in causing the rapid disappearance of syphilitic efflorescences, its absorbent effect upon scleroses is not comparable with that of mercurial inunctions.

Two very unpleasant effects have been noticed. *Pain* following the hypodermic injection is severe, of a peculiar character, and frequently lasts the entire day. In a number of cases abscesses and diffuse cellulitis of an alarming severity have been provoked. *Salivation* occurs more rapidly after mercuriform amide than after any other known form of mercury. Twelve hypodermic injections have been sufficient in a number of cases to seriously affect the gums. At time of writing, most cases of recent syphilis in Prof. Neumann's wards are being treated either with an ethereal solution of iodoform (one to seven), or with mercuriform amide.

Hoang-Nan in Obstinate Scrotal Eczema.

The *Med. Record*, Oct. 13, 1883, says: Hoang-nan is a vegetable substance of repute in Tonquin as a remedy against rabies, the bite of venomous serpents, leprosy, and several other grave affections. It contains nearly three per cent. of brucine and a small quantity of strychnine. Dr. Barthélemy relates in the *Bulletin Général de Therapeutique* of August 30, 1883, a case of chronic eczema of the scrotum in which this substance was employed with most happy effect. The patient, a gentleman about fifty years of age, had suffered for ten years from eczema of the scrotum, perineum, and upper and inner parts of the thighs. He had consulted numerous physicians, and had tried every conceivable remedy without experiencing any relief. Dr. Geneuil, the last physician to whom he applied, having read of the efficacy of hoang-nan in leprosy, determined to try it in this case. The patient commenced with seven grains per diem, gradually increasing to forty-five grains a day, in divided doses. While taking these large doses he felt the physiological effects of the drug (muscular tremors, trismus, and vertigo,) but persevered with the remedy, and was rewarded at the end of ten days by a perfect cure of his affection. The amounts taken were larger than had been advised by Dr. Geneuil. In all five drachms were taken. The patient was seen eighteen months later, and had then had no return of the eczema.

Tannate of Sodium in Chronic Nephritis.

The *Med. Record*, Nov. 3, 1883, tells us that tannate of sodium has been recommended by Lewin instead of tannin in albuminuria, in order to lessen the excretion of albumen. It has been tried by Ribbert on animals. Ribbert ligatured the renal artery in rabbits for an hour and a half, and produced albuminuria. He then injected a one-half per cent. solution of tannin into the jugular vein, extirpated the kidney, and examined it microscopically. He found that much less albumen occurred in the glomeruli when tannin was employed, showing that it had lessened the excretion of albumen. A similar result was obtained with tannate of sodium, and in his experiments with this substance the albumen was generally completely absent from the glomeruli. Dr. Briese has tried the tannate of sodium upon patients suffering from chronic albuminuria. He finds that some patients bear it well, and can take it for a month without any disagreeable consequences, while others vomit after every dose, and in others again the stomach and intestine are affected in two or three days. In the four carefully-observed cases which he records, the tannate of sodium was of no use whatever. It did not lessen the quantity of albumen excreted, nor did it alter the course of the disease.—*Deut. Arch. f. klin. Med.*, vol. xxxiii., p. 220.

The Salts of Nickel in Therapeutics.

Prof. DA COSTA reports in the *Medical News* the results of his experiments with the salts of nickel, which have been highly lauded of late by a number of practitioners. He found only the sulphate and the bromide to be of any value, and these did not exhibit any very important results. In obstinate diarrhea the sulphate had good effects in doses of a grain or two given three times a day. In some cases of indigestion with chronic catarrh of the stomach it acted favorably. The bromide of nickel, not before tried, he found decidedly active, more so than other bromides, and requiring to be given in doses of from five to eight grains, frequently repeated if necessary. It has a marked effect on epilepsy when thus administered. Dr. Da Costa concludes that the salts of nickel, especially the bromide, will be found additions to our therapeutic resources, and are certainly worthy of more careful study than they have hitherto received.

The Use of Antipyretic Agents in Typhoid Fever.

In the course of an article on this subject in the *N. Y. Med. Jour.*, Nov. 24, 1883, Dr. BEVERLEY ROBINSON denies the usually accepted doctrine that high temperature is always a serious symptom in typhoid fever. He has repeatedly seen fatal cases without it, and has observed many cases recover where the temperature has been very high. The agents usually employed to reduce the temperature, viz. cold, quinine, salicylates, aconite, veratrum, digitalis and kairine, all have a tendency, when their use is long continued, to depress vitality in various ways; and since their employment must be extended in so protracted a disease as typhoid, he doubts very much the wisdom of using them.

In the words of Jenner, he concludes by saying that that man will be most successful in treating typhoid fever "who, when presenting an active remedy, weighs with the greatest accuracy the good intended to be effected against the evil the prescription may inflict, and then, if the *possible evil* be death, and the *probable good* short of the saving of life, holds his hand."

Plastic Clay for Suppositories.

The *Lancet*, Oct. 20, 1883, says the use of plastic clay as a convenient material for suppositories in some cases is recommended by Dr. Trippier (*L'Union Pharmaceutique*, xxiv., 398). The ordinary sculptor's modelling clay is used, the medicaments being dissolved in water and then worked into the mass; in this way salts of iron and copper, alum, or even vegetable extracts, may be incorporated by taking proper precautions. It is proposed to supply patients with the medicated clay, so that they can break off a portion and mould it between the fingers as required. There are difficulties in the way of maintaining the proper consistence. These accidents may be overcome by keeping the clay under a bell-glass in a moist atmosphere, or by the employment of glycerine, which is also said to have the additional advantage of giving stability to a mixture containing iodide of potassium. The formula for such a mass is: clay, 500 grammes; water, 50 grammes; potassii iodidi, 30 grammes; glycerine, 100 grammes. (*Pharmaceut. Journ.* for Sept. 29th.)

Ointment of Zinc Salicylate for Eczema.

We find the following formula in *Hager's Centralhalle:*

℞. Salicylic acid	2 scruples.
Oxide of zinc	25 "
Starch	25 "
Vaseline	50 "

Mix and make an ointment.

This ointment, he says, adheres well to the skin, does not rub off during sleep, and is recommended for chronic eczema, and especially for eczema of the face and head in children. He prefers American vaseline to that of the German Pharmacopœia for this ointment.

The Place of Pancreatin in Therapeutics.

Dr. J. S. Hawley thus concludes an article in the *Med. Record*, Oct. 13, 1883: The question, "What is the place of pancreatin in therapeutics?" may, in view of the facts set forth above, be confidently answered: Not as a remedy to be administered internally, but as an agent for adapting foods to the impaired digestive functions of the sick, and especially to the preparation of cow's milk and farinaceous foods for infant feeding.

Homeriana.

The *Chemist and Druggist*, Sept. 15, 1883, says: Homeriana is a drug sent into the market with a great flourish of trumpets. The botanical source is not clearly known, but it will not be far wrong to say that it is a variety of the common *Polygonum aviculare*, modified by its different surroundings in South Russia. It is recommended as a cure for consumption, and is sold at 2½f. for 60 grammes, or about twenty-five cents an ounce.

Salicylic Acid in Rheumatism.

Before the California State Med. Soc. (*Pacific M. & S. Jour.*, Nov., 1883), Dr. Fenn read a paper on this subject, and related several cases of its efficiency. It has fallen into comparative disuse, the writer thinks, owing to its indiscriminate use, and the fact of its preparation from carbolic acid instead of wintergreen and salicin.

Lactic Acid in Diphtheria.

Dr. J. P. Lytle reports favorable results with a spray of lactic acid in diphtheria. He says that it rarely fails to dissolve the membrane in two or three applications. The solution used was of the strength of lactic acid, gtt. xxx.; aquæ, ʒi.

IV. GENERAL MEDICINE.

Fever and Abortion.

The *Brit. Med. Jour.*, Oct. 20, 1883, says: A case lately described before the Paris Academy of Medicine, in which diphtheria was complicated by abortion, has given rise to some discussion. One or two similar cases are on record. The question arises: Does diphtheria act as a stimulant of uterine action, or are we to regard the miscarriage which now and then accompanies it as a mere result of fortuitous circumstances? The accidental theory is one which cannot be altogether negatived, so many slight mischances may precipitate parturition. On the other hand, one or two examples do not suffice to found a doctrine of the abortifacient action of diphtheria. Nevertheless, a good bit of indirect evidence gathered from the behavior of other infectious diseases seems to imply that the latter view may occasionally hold good. Thus, if typhoid or typhus fever come on during pregnancy, labor is not unfrequently premature. It is much more commonly so in small-pox, while in relapsing fever, premature birth is the rule. What is there in these diseases which requires that, while often insufficient to destroy the mother, they should take fatal effect upon the fœtus, and while permitting the regular though impaired action of other organs, should totally arrest the existing function of the uterus? The question is a difficult one to answer perfectly, but it will help us to do so if we consider the double state here present. A normal condition, which necessitates localized over-nutrition, is encroached upon by one of disease implying more or less inflammatory action with fever, and associated with the presence at some point, or even throughout the body, of the elements of contagion. This being so, it is not remarkable that while all parts of the body more or less feel the effect of the stimulated circulation, that part chiefly does so at which there already exists a physiological hyperæmia. The selective property of congestion is well seen in the phenomena of congenital syphilis, which, particularly in infancy, affects in a marked degree the seats of active growth, as joints, and the cranial centres of ossification. Alcoholism shows a similar tendency, and is especially in point. The frequency and the regularity with which indulgence in drink is followed by abortion is such as to strongly suggest a direct relationship of cause and effect. Uterine complications in fever may, therefore, be explained on the hypothesis of local inflammation. General congestion acquires a greater local intensity on the principle of simple addition. On the other hand, the germ-element cannot be excluded. With our present knowledge, it is only reasonable to admit that circulating disease-germs can become arrested and develop in the over-nourished decidua, and so constitute a source of uterine irritation. In this connection, we remark that in small-pox and relapsing fevers—diseases in which the blood is impregnated with organisms from an early period—abortion, as said, is much more common than in typhoid fever, where the specific contagium remains for long confined to the alimentary tract. A third suggestion, applicable to the case of diphtheria, is that the excess of carbonic acid in the blood in that disease, the result of difficult respiration, leads to convulsive expulsion of the uterine contents. No doubt, excess of carbonic acid will induce convulsion, and the latter perhaps abortion; but the frequency with which women in fever miscarry when blood-aëration is not materially interfered with, the uncertainty as to what is the etiology of convulsion, and the comparative rarity of abortion in diphtheria itself, lead us to doubt whether asphyxia furnishes the true explanation. The evidence we have adduced rather goes to support a theory of direct uterine irritation, arising in some cases out of simple inflammation; in others out of inflammation due to local concentration of infective germs. In any case the subject touches one of wider than uterine significance, and will reward careful investigation.

Tuberculosis as Produced by Sprayed Sputa.

"The following method may be briefly stated as the manner of procedure in my investigations: Animals known not to be scrofulous or to easily acquire tuberculosis spontaneously, such as the cat and dog, were confined in a large box, which was then placed in a room, or else they were allowed to run free in the room itself. Sputum was taken from patients known from a thorough physical examination to have phthisis.

"Several of these patients have since died and the diagnosis verified by autopsy, so there can be little doubt but that the source of my material was from consumptive persons. The sputa were either placed in the bottle of an ordinary hand-spray, or else first made into a thin emulsion by admixture with an equal portion of water, and the animals sprayed during a period of five minutes for five consecutive days. As a self-protector, I invariably made use of an inhaler of borated cotton, the meshes of which were filled with powdered boric acid.

"The spray was directed as far as possible toward the animal's nose. In every instance careful attention was paid to a proper and regular supply of food and water during the period of confinement, and the animals were finally killed at various dates by Scheele's hydrocyanic acid."

Dr. Louis D. Brose, who made the experiments, thus sums up his results in the *N. Y. Med. Record*, November 24, 1883.

First.—That tuberculosis may follow the inhalation of air-carrying particles of sputa from phthisical patients.

Second.—The breath and saliva of consumptive persons, being thus contaminated, are liable to originate, either through kissing or by direct inhalation through close contact, the same disease in a healthy person; the greater the concentration of the breath inhaled the greater the danger.

Third.—Since the same sputa in animals killed under ten days produced no disease, and since the healthy brain of other animals produced no disease, in cats even when under observation for a period longer than twenty days, while true tuberculosis always followed (in five of my own cases,) the inhalation of tuberculous sputa in animals between eighteen and thirty days after the first spraying, I feel warranted in inferring that in the last instance there was something specific in the inhaled spray requiring certain development before originating the infectious disease, tuberculosis. That it was alone the *tubercle bacillus of Koch*, I have not claimed. My own opinion regarding the origin of tuberculosis, formed from this research and a no inconsiderable clinical experience with the disease, is that, like diphtheria, it is ordinarily determined by certain peculiarities and susceptibilities in individuals, together with the presence of a specific principle. Now when a person who has this peculiarity of weak lungs, or in other words, one in whom bronchial and catarrhal troubles are easily excited, has superadded the infection of tuberculosis, let it be in a minimum amount, we have arising true consumption running through its various stages. Even healthy persons can thus be infected when the specific matter is inhaled in large quantities, just as the poison in other infectious diseases will certainly produce these same diseases when inoculated in concentrated quantities in persons who would otherwise escape. The reason why we have acute disseminated miliary tuberculosis in one case, and a catarrhal phthisis in another, will depend upon the susceptibility of the individual to catarrhal cell-proliferation and whether the specific principle was superadded to an already existing catarrh, in which case the specific principle would reproduce itself easiest at the seat of tissue necrobiosis. If, on the contrary, there existed a proclivity against catarrhal processes, and the person was infected with a concentrated dose, so to speak, of the specific principle of tubercle, there might arise a disseminated miliary tuberculosis.

Diet in Diabetes.

In the *Boston M. & S. Jour.*, Nov. 29, 1883, we read that Professor AUSTIN FLINT, in a recent lecture on diabetes, speaks of the difficulties to be encountered in effecting a suitable anti-diabetic diet. The alimentary regimen of this disease consists in withholding from the food, almost entirely sugar, in any form, and all the starchy constituents of food capable of being transformed into sugar. This is a matter of great difficulty, which requires the constant supervision of the physician, and can only be accomplished by the latter placing before the patient a list of all articles of food which are permitted, specifying them, and also all articles of food which he must not take. The patient should have such a list before him in the hand-writing of his physician, and such articles should be selected from the allowable ones as to make a variety from day to day, and so prepared by the artifices of cookery as to make them satisfactory. This can be done, but it requires patience and it requires care on the part of the patient or somebody else, and it requires means. The poor man can hardly afford the bill of fare or the severe restrictions of the diabetic hygienist.

The article of food which will cause most trouble is bread, and diabetics realize the force of the statement that bread is the staff of life. Frequently they say that they care little for bread, that they can get along very well without it, but they do not find it so after a while. Therefore there have been numerous substitutes for wheat flour bread, but few of which are to be commended. There is what is called diabetic flour, which is bran very finely ground so as to divest it of all rough particles, but it has no nutritive value whatever, and is, Dr. Flint says, no better than sawdust. Dr. Flint commends as more satisfactory than anything which he has before tried the gluten bread prepard by the Health Food Company of New York. It is not entirely devoid of starch, but it is so prepared that it is not deprived of the agreeable qualities of ordinary bread, and helps render the animal part of the daily dietary more acceptable.

Bouchardat is doubtless the great authority on the dietary regimen of diabetic patients, as stated in the lecture which we printed last week. While rigidly excluding the long list of starchy and saccharine aliments, he allows the diabetic to eat without fear meat of all kinds, brown or white, broiled or roasted, seasoned with any sauce pleasing to the palate, provided there be no flour or sugar in it. He especially commends the flesh of carnivorous animals, and advises their trying cat, dog, and fox! The liver should not be eaten, and the fat of meat should be as far as possible avoided. All sorts of fish, shell fish, and lobsters are permitted. As for the green succulent vegetables there is a wide latitude of choice; spinach, endives, lettuce, sorrel, asparagus, artichokes, cress, dandelion, etc., being good for diabetics, and salads may be allowed, with a full complement of oil and hard boiled eggs. For drinks, besides a moderate amount of good claret or Burgundy, which may be daily taken, brandy and soda water may be used, and fresh beef tea, which latter is a capital quencher of thirst.

Many of the articles allowed by Bouchardat are not altogether devoid of sugar or starch, but the quantity is so small as not to be considered dangerous, and the *menu* of this great authority has not been improved by any of the subsequent writers on this disease, if we way credit Chambers, from whose Manual of Diet we quote.

Some Conclusions Concerning Vaccine and Variola.

In *Vierteljahrsschrift f. öff. Gesund., 15 B., 3 H,* 1883, Dr. Leonard Voight publishes the following conclusions as the result of many years' experience and observation:

1. Vaccine lymph may be procured by vaccination of the cow with lymph taken from the pustules of persons sick with small-pox. But no one can be sure that every attempt will be successful.

2. The vaccine obtained in such a manner is suitable for the vaccination of men on account of the energy of its operation, but it should only be used after transmission from animal to animal several times, by which proceeding its effect is mitigated.

3. In the first year of its use vaccine lymph obtained in this way possesses a higher efficiency than an animal stock several years old.

(By this term, *a stock several years old*, we should understand lymph transmitted from animal to animal, at the time of the maturity of the vesicle, for several years. In accordance with the custom of animal vaccinators each year would represent a series of fifty-two to sixty-five animals, the period of maturity presenting slight variations.)

4. Vaccinia and variola originate in the same virus, and each gives to the person attacked a certain claim of immunity against suffering arising from the same source.

5. The duration of this immunity is in proportion to the intensity of the attack.

6. Among people who have had the small-pox twelve years before, we find al-

most the same susceptibility to vaccination as among those who were vaccinated at the same time. Consequently children twelve years of age, and vaccinated during the first year, are liable again to take small-pox.

7. Therefore, the imperial vaccination law which orders the vaccination of infants and their re-vaccination at twelve years of age fulfills an actual necessity.

8. Animal lymph transmitted from calf to calf, and originally very active, loses its power earlier than humanized vaccine transmitted from arm to arm. Humanized lymph gives the best results in men and animals in the long run; therefore the animal vaccine of old stock promises inferior results to retro-vaccination of the first remove.

9. Lymph carefully propagated and originated from the cow-pox but a short time before, is the most efficient, not only in its animal but especially in its humanized form. Therefore resort should frequently be made to the original cow-pox in order to obtain lymph as protective as possible.

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Thomsen's Disease.

The *Brit. Med. Jour.*, September 22, 1883, says: This singular affection, called by the name of the physician who first observed it in himself and his family, can at present, thanks to the investigations of Thomsen, Leyden, Seligmüller, Westphal, etc., be considered as a distinct disease, whose nature, however, still remains to be found; for, until now, microscopical researches have given a negative result. According to Thomsen, it is of psychical nature; but Westphal considers it as a congenital disorder of the muscular tonicity, and Jacusiel as a congenital muscular hypertrophy. The disease is essentially hereditary, and follows other abnormal nervous manifestations. All the cases were congenital. The chief symptom is a spasmodic stiffness of certain muscles, appearing at the beginning of a movement. After the muscles of the legs have been at rest for some time, and the patient tries to get up, he feels suddenly a stiffness in the articulations of the legs, which are fixed by a tetanic contraction. This same stiffness shows itself also after violent muscular exercise, after certain complex movements, dancing, etc.; or after an unexpected sensation: when the patient is running, for example, if his foot comes into contact with a stone, it becomes rigidly fixed, and the patient stumbles, sometimes before he is able to save himself with his hands. M. Greffier, in the *France Médicale*, insists upon the important fact that the contraction only comes on at the beginning of a movement. When the movements have been repeated a certain number of times, the contraction disappears. It may be observed, also, in muscles supplied by cranial nerves, as in those of the tongue, face, and orbit. According to Thomsen, imagination and cold can produce the spasm, which disappears by a repetition of the movements. The sphincters are never implicated. The muscular hypertrophy may be absent; the muscular power, tendon-reflexes, sensibility of the skin, and electrical irritability of the muscles, are normal. It is, therefore, difficult to mistake this disease for locomotor ataxy or pseudo-hypertrophic paralysis; the latter is a true paralysis, and the former is characterized by permanent stiffness, abnormal excitability, excess of the patellar tendon-reflex, and, finally, by symptoms of spinal epilepsy.

Variations of the Urinary Chlorides.

The *Lancet*, Sept. 29, 1883, says: No one will deny that a more frequent examination of the constituents of the urine might lead to the acquisition of fresh knowledge. Even in our public clinical institutions the systematic estimation of the most important urinary constituent is not regularly carried out. A complete clinical account of the changes in the urine which attend the active stages of the rachitic process would probably be attended with important additions to medical science. Indeed, the same may be said of most acute diseases. In ordinary medical attainments, perhaps, the only piece of information with regard to the chlorides of the urine consists in the knowledge of the fact that there is a remarkable diminution of this ingredient in acute pneumonia. M. BUROT has done well to draw attention to this unploughed field of clinical medicine. He has devised a simple apparatus for the purpose of estimating the chlorides. A small flask is furnished at its inferior extremity with an ampulla capable of holding just one cubic centimetre of urine. A pipette is obtained, guaged in tenths of a cubic centimetre. Another little flask containing a solution of argentic nitrate is used from which the pipette may suck up some of its contents by means of a ball of caoutchouc. A cubic centimetre of urine is first treated with a solution of potassic chromate. The solution of nitrate of silver of known strength is then dropped in by means of the pipette. The whole of the chlorides in the urine have been obtained as soon as the *café au lait* precipitate of chromate of silver appears. M. Burot found that the normal amount of chlorides in the urine was eleven grammes for every litre, consisting of ten grammes of chloride of sodium and one of chloride of calcium. In tuberculosis it was estimated that seventeen to eighteen grammes of chlorides per litre were discharged. But a diminution of the chlorides is of greater import, especially in acute affections. In pneumonia, when the temperature is much raised the fall in chlorides is considerable. This diminution was not noted in broncho-pneumonia. But in the pneumonia of typhoid fever at the onset of death the chlorides completely vanished.

Epilepsy Following Privations.

Dr. CURNOW reports this case in the *Brit. Med. Jour.*, September 1, 1883: Edward Swendsen, aged 41, was admitted into the Seamen's Hospital, Greenwich, on June 25, 1883, in a semi-maniacal condition. It was said that for some days he had been subject to fits, after each of which he remained for a variable number of hours in a state of mania. When seen on admission, he was excited, making constant efforts to escape from the room, apparently not comprehending what was said to him, and talking incoherently on nautical matters. When placed in bed, it was at first found necessary to restrain him by mechanical means, but, in two or three hours, he became composed and sensible, and was soon after able to give the following account of himself. He was a Dane, and, in November last had embarked in Japan in a Danish ship for the purpose of going home to his own country. The ship was caught in a storm in the Japan Sea, and became a total wreck on one of the small islands there situated, all hands being lost except himself, the captain, and a boy. For eight days they lived on this island, which formed a mere narrow sandy reef without shelter of any kind, entirely exposed to the weather, and subsisting on "grass" and raw fish. On the ninth day they were picked off by a steamer sent out after the storm to look for survivors, and taken to Shanghai, where the captain and boy died. Here he remained in hospital some time suffering with fits, sometimes as many as six daily. He had never suffered from fits before, nor had any of his relations, and he ascribed them to his privations and exposure to the sun. He stated that he was aware of the approach of a fit by a peculiar feeling "worming up" from his stomach to his head- and when it reached his head, the fit came on. Sometimes some weeks passed without the occurrence of a fit. He remained in the Seamen's Hospital till June 30th, and during that time was quite rational, and much troubled at his affliction. He then left to go home to Denmark. No fits having occurred while he was under observation, their nature can only be surmised; but, from the man's description they would seem to be of a true epileptic nature.

Antiseptics.

The *Boston M. and S. Jour.*, November 8, 1883, says: In some researches on the aseptic power of certain substances with reference to bacteria, M. Miguel publishes a table in which is given the weight of each substance required to render imputrescible a litre of beef soup (bouillon de bœuf).

We give a portion of the table in the order in which they are published:

	Grammes.
Biniodide of mercury	0.025
Bichloride of mercury	0.07
Nitrate of silver	0.08
Iodine	0.25
Chlorine gas	0.25
Bromine	0.60
Sulphate of copper	0.90
Salicylic acid	1
Benzoic acid	1.10
Mineral acids	2 to 3
Essence of bitter almonds	3.20
Carbolic acid	3.20
Permanganate of potash	3.50
Arsenious acid	6.00
Hydrate of chloral	9.50
Salicylate of soda	10
Sulphate of iron	11
Borax	70
Iodide of potassium	140
Glycerine	225
Hyposulphite of soda	275

To prevent the dispersion of microbes from the sick, he advises treating the dejections of patients with the following solution:

Sulphate of copper	20 grammes.
Sulphuric acid (66°)	40 grammes.
Water	1000 grammes.

Also the bathing of the bodies of patients with a solution of iodine 1 part to 1000, or of bichloride of mercury 1 to 5000.

The Disease of the Potato Diggers.

The *Med. Record*, November 10, 1883, refers to a disease (described by Dr. W. Zenker, *Berlin. Med. Woch.*), which affects farm laborers, principally those engaged in digging and gathering potatoes. It is thought to be a neurosis of the locomotor apparatus of the feet and legs, caused by the strained position in which the feet and legs are thrown while engaged in this occupation.

The laborer, says Zenker, stoops down and supports himself upon the knees and feet. He moves about in this position with the knees strongly bent and feet strongly extended, and he keeps at this for hour after hour for many successive days. The position is not a natural or easy one, and any beginner who attempts it will soon feel a weariness and numbness in the limbs.

The result of this kind of labor is that in some cases one or both feet and legs become paretic, the paresis affecting both motion and sensation. The patient finds that one extremity feels heavy, cold, numb, and sometimes painful, and the foot drags in walking. The physician on examining it finds that the movements of flexion and extension are slow and weak; lateral motion is limited. The affected leg feels colder to the touch than the healthy one. Tests show a loss of pathic and tactile sensation almost complete. In some cases electric currents are but slightly felt, while both faradic and galvanic reactions, though present, are feebler than normal. The leg does not atrophy.

A case of this kind may rapidly improve, or it may continue almost in *statu quo* for several years; the patient still walks about, though with a limping gait.. The treatment has, so far, consisted in foot-baths, massage, and electricity. It has not always proved successful.

Dr. Zenker reports in detail only five cases, but he believes that the disease cannot be a very rare one in the autumn months, and begs that other physicians practicing in the country will report the results of their observations.

The Hygiene of Low Diet.

Under this title, Dr. Gustavus Scott Franklin contributes a paper to the *Journal of the American Medical Association*, October 13, 1883, which concludes as follows: A fair knowledge of food therapeutics, can only be acquired after careful investigation into the specific character and value of foods; and when clinical experience confirms the theories we form, the conscientious physican is very apt, like Hippocrates, to become an enthusiast on this subject. I believe my own studies on food dietetics have borne rich fruit in my practice, and I am certainly increasingly fond of informing myself on everything which relates to it. In this line of study we learn how to nourish, and still not to inflame; how to feed the stomach, and yet not to produce an excess of bile; how to supply a demand for strength, and not load up the enfeebled system with irritating detritus; how to feed the patient, and not the fever; in fine, how to restore to health, and not allow either starvation or repletion to snatch a victim from under our very eyes. The clear recognition of the need of our fever patient for demulcents, or for laxatives, or for diuretics, or for sudorifics, or for astringents, or for stimulants, and the ability to supply these needs at least approximately by the scientific use of food, leads to great clinical triumphs, and is a source of immense satisfaction. The ideal treatise on this subject is yet to be written, and probably awaits a companion treatise on pathological physiology, which needs another St. Martin and a more highly educated enthusiast than Beaumont to limn its outlines.

Hysterical Pseudo-Phthisis.

The *Med. Record*, October 27, 1883, says: In young women suffering from chlorosis and hysteria there is often, according to Dr. Fabre (*Centralblatt für Gynäkologie*, September 8, 1883), a condition simulating phthisis. There is a cough, with expectoration, and even spitting of blood. Physical examination reveals dullness at the apex (usually on the right side), feeble respiration, and occasional râles. The author regards these symptoms as due to a vaso-motor disturbance exciting a pulmonary congestion. Other organs may also be subject to functional disturbances. Obstinate anorexia, gastric pain, occasionally diarrhœa, but more frequently constipation, are not seldom present. The pulse is weak and frequent, like that of fever, although the temperature may be normal. Sometimes, however, there is elevated temperature, but it is only transitory, and regular evening exacerbations are never observed. The expectoration is not purulent, but may be mixed with blood. While in true phthisis there is emaciation, in these cases the patients often increase in weight. Sweating, as a rule, is not met with. The differential diagnosis is often difficult, and the author relates that cases have not infrequently occurred in which a diagnosis of pulmonary consumption was made, but the patient nevertheless recovered. The condition may exist without material improvement for months, or even years.

Cysticercus Cellulosæ in a Dog.

The *Brit. Med. Jour.*, October 20, 1883, says: It has for long been understood that the immature form of the common tapeworm, *Tænia solium*, is peculiar to the pig, just as the cysticercus of *T. mediocanellata* is found in the ox, Leukart having failed to infect any other animal by adding the ova of the latter species to its food. M. Trasbot in a recent number of the *Bulletin de la Société Centrale de Médicine Vétérinaire*, describes a case of cysticercus in a dog, which appears to have been kept in a yard where human excreta were frequently deposited. Its master observed that its body had become very tender, the most gentle pat causing the animal great pain. After death, all the voluntary muscles were found to be thickly infiltrated with cysticercus cellulosæ. The dog has hitherto been credited as the host of the mature *Tænia echinococcus*, the cysticercus of which has been found in the human brain, the vitreous body, and other parts; but M. Trasbot's case shows that the scolex of *T. solium*, the well-known cause of measly pork, can also live in the tissues of that carnivorous animal.

Disease Germs: Their Vitality; Means of Rendering Them Innoxious.

The New York *Med. Jour.*, November 3, 1883, says that M. Paul Bert, President of the Paris Society of Biology, in discussing the question of disease germs recently before that society, said that he had received numerous letters from persons engaged in handling mercury who believed that their occupation afforded them immunity from contracting cholera. Workers in copper are said to enjoy a like immunity from the disease. These supposed facts led M. Bert to seriously question whether there did not exist for each sort of disease germ a destructive agent in the presence of which the germ was unable to develop. M. Davaine, with the view of answering this same question, instituted a series of experiments upon the bacteria of anthrax. M. Bert, with M. Capitan, undertook a similar series of experiments upon the virus of glanders. This virus, "sown" in solutions of sulphate of copper, bichloride of mercury, chloride of gold, or in oxygenated [? ozonized] water, was not fruitful; on the contrary, its development was rapid in solutions of permanganate and of carbonate of potassium.

New Bed for Invalids.

To the Manchester Medical Society (*Brit. Med. Jour.*, October 27, 1883), Dr. **Yeats** showed a model of a new invalid-bed or carriage. The special features of the bed consisted in a movable pad in the mattress, which was lowered and elevated by beveled wheels and screw, and worked by a hand-wheel at the left side of the bed, either by the patient himself or an attendant; and further, there was a bed-pan fitted underneath and close to the mattress, which could be moved forwards immediately under the patient, and also moved backwards again, by means of a rack and pinion, and also worked by a hand-wheel at the right side, either by the patient himself or a nurse. The pan when drawn back, after being used, slid into a box provided with a close-fitting lid lined with India-rubber to prevent any odor. The advantages of the bed were the following, viz.: there was no disturbance of the patient in using the bed-pan; the bed-pan could be managed by the patient himself, and it could be used in-doors or out of door without being seen by anyone; and the risk of any offensive odor was almost totally obviated.

The Inherited Results of Intemperance.

In the course of an interesting article in the *Boston M. & S. Jour.*, Nov. 22, 1883, Dr. C. B. **Shute** says:

Morel says that not only is the vice of alcoholic abuse hereditarily transmissible, but it also frequently leads to insanity in the offspring of the drunkard. He gives a remarkable example of this. The great-grandfather of the family was a dipsomaniac, and so complete was the transmission of the disease, that the race became totally extinct, under the well-marked phenomena of alcoholic poisoning and degeneracy. The effects entailed were: in the first generation, alcoholic excesses, immorality, depravity, brutish disposition; in the second generation, hereditary drunkeness, attacks of mania, general paralysis; in the third generation, sobriety prevailed, but hypochondriasis, lypemania, persistent ideas of persecution, homicidal tendencies, were expressed; in the fourth generation, intelligence was but feeble; mania became developed at sixteen years of age, stupidity running on to idiocy, and to a condition involving extinction of the race.

A Case of Hermaphroditism.

Dr. **Francis Minot** reported this case to the Boston Soc. for Med. Improvement (*Boston M. & S. Jour.*, Nov. 22, 1883):

The patient was nineteen years old, and had always been supposed to be a female. She was tall, bony, and had a deep bass voice. The breasts were not developed, and there had never been any menstruation. There was no beard. There was an enormous clitoris resembling a glans penis, having a prepuce which was easily retracted, and which was fissured at the lower part, looking like a case of circumcision. There was a depression at the usual situation of the urethra in the glans, but no true meatus, which was situated below the clitoris, as in the female. Below this was the vagina, two inches in depth, and partially closed by a hymen. Neither uterus nor ovaries were found. There was a swelling in the left labium when the patient strained, which was apparently a hernia. There was no sexual feeling, and the patient appeared to have no preference for the society of either sex.

Bacteria not the Cause of Disease.

That our readers may have both sides of every question, we note that at a meeting of the Buffalo Microscopical Club on the 12th of September, Dr. ROLLIN GREGG read a paper in which he contended that the so-called bacteria of disease were nothing more than so many forms of fibrine. He has made some apparently rather rough-and-ready experiments by boiling blood on the one hand, and allowing it to "rot" on the other. All the forms that have ever been pictured as bacteria were to be observed in the boiled blood. "Rotted" blood showed even still more numerous shapes. In fact, every variety of shape, from a thread to a ring or globe, or any combination of such forms, may be simulated more or less exactly by fibrine in "rotting" blood. Dr. Gregg seems to think that fibrine contained most, if not all, of the formative forces of the organic world.

Organic Heart Disease Produced by Functional Disturbances.

Dr. E. P. HURD thus sensibly concludes an article in the *Med. Record*, Oct. 20, 1883:

The lesson which I wish now to convey is this: If the heart may be modified in its operations by strong emotion, it may be deranged thereby. Persistence of the cause will produce persistence of the effect, and functional perturbations engendered by grief, suspense, disappointment, etc., may, if the depressing emotion be long continued, become chronic. Here we have a possible explanation of many of those cases of chronic, so-called "essential" palpitations, when, for a series of years, there is inordinate frequency of the heart's pulsations without organic disease. Every disturbance of rhythm necessitates a new adjustment in correspondence with changed conditions, and equilibrium of any kind once established, tends toward permanence. The persistence of organic habits is, as Mr. Herbert Spencer would say, a corollary from the persistence of force.

Milk and Tubercle.

The *Med. Times and Gaz.*, November 10, 1883, says: "We are glad to direct attention to some experiments of Dr. FERD. MAY, published in the first number of the new *Archiv für Hygiene.* Pieces of lung, infiltrated with tubercle, were finely divided and rubbed up in a mortar with milk. The milk thus prepared was injected subcutaneously into guinea-pigs; tubercle in the majority of the cases followed, but there were many failures. In a second series of experiments, the milk, contaminated as before, was boiled from a quarter of an hour up to three hours; but though sixteen animals were operated upon, no effects followed. It also seems established that if the milk-producing gland is itself infiltrated with tuberculous deposit, the secretion is far more dangerous than if derived from a cow much advanced in phthisis, but with the mammary gland unaffected."

Fruit as an Article of Diet for the Sick.

The *Lancet*, October 6, 1883, says: This question was lately discussed by Professor Reclam in the *Gesundheit*, and in the course of his remarks he laid stress upon the necessity of properly masticating fruit, as much of the prejudice which exists against its use as a portion of a sick person's dict arises from the fact that it is often consumed in a hasty and consequently injurious manner. He excludes from his dietary scale all fruit which is so hard as to require much exertion in masticating it. As to the choice of fruit, he gives copious details as to the relative proportions of acid contained in different varieties. Plums contain the largest quantity of acid and only a limited amount of saccharine matter, although the taste is deceived in this respect by the other component parts of the fruit in question. Ripe red pears form the other extreme of the scale of acidity.

Historical Note on Convallaria Majalis.

Dr. Edward Drummond writes as follows to the *Brit. Med. Jour.*, November 17, 1883:

I have lately met with an account of the use of this drug, in cardiac disease, as far back as the commencement of the seventeenth century, of which I give a translation. It occurs in an old Italian book of *Commentaries on the Materia Medica of Discorides*, by Dr. Pietro Andrea Matthioli (physician to the Emperor and to the Archduke Ferdinand of Austria), and was published in Venice in 1621. He says: The Germans use lily of the valleys to strengthen the heart, the brain, and spiritual parts, and also give it in palpitation, vertigo, epilepsy, and apoplexy; also as a remedy for the bites and stings of poisonous animals; to quicken parturition; and for inflammations of the eyes. For this purpose, they are wont to prepare the wine from the flowers at the time of the vintage; and then infuse them in old wine for forty days in the sun, and subsequently distill and re-distill (but not many times) along with lavender-flowers, rosemary, and other aromatics. They then preserve it as one of the most precious things which are to be found amongst medicines, and they call it "aqua aurea," and preserve it in vessels of gold and silver against sudden attacks. They even believe that, given to persons actually *in articulo mortis*, it is able to prolong life for several hours." In this, however," he dryly adds, "they are not unfrequently deceived, as I have myself witnessed."

Amongst other interesting matters in this book, there are descriptions of experiments on criminals under death-sentence, witnessed at Prague and in Rome, under the Pontificate of Clement X., by Dr. Matthioli, on the effects of aconite and nux vomica, and their supposed antidotes.

V. CLINICAL MEDICINE.

Myxœdema and the Cretinoid State.

We find the following in the *Med. Press*, November 28, 1883: A remarkable, and in many respects important, discussion, took place at the Clinical Society of London on Friday evening, in connection with a paper on Myxœdema communicated by Dr. DAWTREY DREWITT. New light of an almost startling kind has been thrown on the relations of this obscure and puzzling affection by the researches of Professor Kocher, of Berne, whose results were epitomized for the Society's benefit by Dr. Felix Semon, and an account of which will be found in our report of the meeting in question. How far these investigations may influence the direction of future treatment, or modify the opinions hitherto generally entertained, it would, of course, be premature to say as yet; but that fresh impetus will henceforth be given to the study of clinical facts and personal transformations in not only myxœdematous subjects, but also in those afflicted with other diseases now shown to have some close association with myxœdema, may be taken for granted; and, in any case, we may ascribe to what has recently been accomplished in this limited field of medical inquiry, a value of very tangible and considerable proportions.

The physiological puzzle presented by the thyroid gland and the spleen has long enough provoked the patience of physicians; and any, the slightest, contribution of knowledge bearing upon its solution will be welcomed with cordial goodwill on every side. But it is not yet open to us to assert that any positive information is now forthcoming on the point, although what has just been given to us in part justifies a hope that light is being thrown on the darkness of past ignorance. Professor Kocher has indubitably proved that there is a direct casual connection between a cretinoid condition of the human being and the absence of the thyroid body from the organism. In a definite number of instances he removed this gland from young people in whom it had become enlarged as a result of goitre; and in no less than sixteen such cases of complete extirpation of the organ he has been able to describe sequential changes which are conclusively cretinoid in character, and at the same time bear marked resemblance to the progressive symptoms exhibited in typical myxœdema. The fact that such changes were observed by him while he still remained ignorant that a degenerative disease had been introduced into medical terminology under the title of myxœdema, strengthens the conclusions deducible from his descriptions; but, nevertheless, tempting as the desire to argue from his set of observations to those conducted in regard to myxœdema proper may be, it must, for the time, be stoutly resisted. Conviction, however, is strengthened in respect to the conclusions that might be thus drawn, from the fact, adduced by several authorities among whom Dr. Ord must be specially included, that examination conducted with a view to ascertaining the presence of a thyroid in patients suffering from myxœdema usually results in showing the gland to be unusually small, even when it can be distinguished. Further, too, in one instance where this was not the case, the patient had been subject to exophthalmic goitre previously to the onset of symptoms of myxœdema; and thus a perfectly reasonable cause for the unexpected size of the structure in this case was forthcoming. Again, in the same connection, two of Dr. Kocher's patients who should have exhibited the peculiar set of changes observed in the sixteen patients referred to, as a consequence of excision of the thyroid, failed to do so; and in both a sufficient reason for the anomaly was forthcoming. In one, subsequently to the operation, a small accessory thyroid previously existing had undergone compensatory hypertrophy, and presumably taken on itself the functions, whatever they may be, of the whole gland; and in the other, goitre recurred, showing apparently that a portion at least of the gland-tissue remained behind.

It seems almost impossible, with so much particular evidence at hand, to avoid the inference that the thyroid performs very important functions in the animal economy, and that on a due preservation of its normal condition the body is dependent for an essential maintenance of its normal condition. The manner of this connection is suggested by Dr. Semon, who, however, is careful to exclude the appearance of dogmatism in his statements, but who is, nevertheless, very pertinently suggestive in the remarks he makes. That the influence we are called upon to consider is one the constitution shares as a whole, is evident; and hence the conclusion that the blood is the tissue directly affected, is unavoidable. In its normal state the elements composing this fluid are elaborated in a definite and quantitative manner, to which the thyroid gland presumably contributes a due share. In diseased states of the latter organ those blood constituents in the elaboration of which it plays an important part must necessarily be altered in character; and Dr. Semon's suggestion that such change is in the direction of lowered organization, is perfectly feasible and reasonable. As a result of such vitiated, unperfected blood, mucoid degeneration of the whole body might naturally follow; and with it, in later stages, the mental deterioration observed in myxœdema and artificial cretinism would obviously proceed, as a result of interstitial changes in the nerve-centres and nerves.

It may be worth while here to refer to the valuable work done in connection with the study of goitre and cretinism during a long series of observations conducted by officers of the Indian Medical Service. That there is no invariable connection between the two, has again and again been demonstrated, and Dr. Sayer's figures, as quoted by Dr. F. N. Macnamara, in his work on "Diseases of the Himalayas," are very instructive to this end. From these statistical returns it appears that in one district—Tirhoot—up to the end of 1871, 22,780 cases of goitre had been treated, of whom 10,480 were males, and 12,296 females. Of this large number, but *one* was an idiot, while only 293 were deaf and dumb. In other parts of the same work it is true that less startling disproportions are quoted; but throughout it speaks conclusively to the effect that, of the total of goitrous patients, but a very small number are at the same time idiots, and the existence of these even is easily explained by intermarriage, habits, and inheritance.

Accepting the full teaching of Professor Kocher's observations, we should be led to conclude that a mere enlargement of the thyroid would not of itself suffice to create idiotcy, but that such a condition must be looked for under either of two conditions—viz., when the disorganization of the gland consequent on goitre has proceeded to such lengths that it ceases to be of physiological use to the body —and this condition would probably be preceded by death; or when, by surgical interference, it is entirely obliterated. It is also not impossible that myxœdema is itself preceded by retrograde changes in the thyroid, which, by an arrest of function, or from gradually proceeding atrophic changes at length assumes such a condition that its importance in a physiological and nutritive sense is *nil;* and it is significant from this point of view that all experience of myxœdema has hitherto been among adults of an age when functional inactivity is not unexpected. Kocher's "cachexia strumativa" is apparently myxœdema *plus* arrest of growth, and no laboured argument is needed to associate the latter with deteriorated blood supply consequent on absence of that influence normally exercised over the circulating fluid by the thyroid.

In one respect the discussion leaves us no farther ahead than we were before, and that is as regards treatment and prognosis. Dr. Ord's success with jaborandi had previously been generally recognized, and Sir. William Gull urged its employment in the case which gave rise to the debate. Sir William did not feel himself in a position, even after the narration of several cases of improvement by Sir Andrew Clark and others, to speak hopefully of the future of patients afflicted with myxœdema. In his opinion every case progresses to a fatal termination. This view, fortunately, is not universal.

The Treatment of Migraine.

The New York *Med. Jour.*, Nov. 17, 1883, has three articles on this subject. Dr. William A. Hammond recognizes two varieties, the spasmodic and the paralytic type. In the first, the calibre of the blood-vessels is diminished, and it is characterized, in addition to the pain, nausea and vomiting, noises in the ear, circles of flashes of light in the eyes, and mental and physical prostration, by certain oculo-pupillary and vaso-motor disturbances, which are generally easy of recognition. These are as follows:

During the paroxysm it is sometimes observed that the pupil on the affected side is dilated, while the eyeball is apparently sunk deeper in its socket than in the normal condition. The face and ear of the side on which the pain exists are pale and cold to the touch, and the temporal artery is contracted, so as to give, when compressed, the sensation of a tight cord. If the bulb of a thermometer be placed in the external auditory canal, it will be found that the temperature is about 0.5° F. below that of the unaffected side. Whatever tends to diminish the flow of blood to the painful region increases the intensity of the symptoms, while, on the other hand, whatever increases the quantity of intra-cranial blood lessens the pain and the severity of the other phenomena.

In the second, the other form, which is called paralytic from the fact that the coats of the arteries are relaxed, and hence the caliber of the vessels increased, presents phenomena in many respects the very opposite of those which are characteristic of the first-named variety. During the existence of the paroxysm the pupil is contracted, as is also the opening of the eyelids. The face and ear of the affected side are red, and feel hot, and there is an absolute increase of temperature. The thermometer, the bulb of which is inserted into the external meatus, shows an increase of from 0.2° to 0.5° F. over that of the sound side. The temporal artery is enlarged and tortuous, and beats with increased force; compression of the carotid on the side corresponding to that of the disease lessens the pain, and whatever tends to increase the amount of intra-cranial blood intensifies all the symptoms. The fundus of the eye is, as Möllendorf observed, of a bright scarlet color.

Sometimes these conditions alternate, one paroxysm being of the spasmodic variety, and another presenting all the phenomena of the paralytic type. Occasionally both may exist at the same time on the opposite sides. At other times the oculo-pupillary and vaso-motor symptoms are absent, the pain alone being present. In such cases experiment only can determine the nature of the existing seizure.

Such being the pathology of migraine, the principles of treatment are clear and specific. In general terms, the indications are, in the spasmodic form, to relax the spasm of the vessels and to augment the quantity of intra-cranial blood; in the paralytic form, the treatment should be directed to increasing the tone of the arterial coats, thus lessening the flow of blood to the brain.

In the angio-spastic type, galvanism is of great service in the treatment of the paroxysm. One pole should be applied over the sympathetic nerve in the neck and the other over the solar plexus, and the current from about fifteen cells allowed to pass for two or three minutes. Often a single *séance* will break up the seizure. There are, however, other means of still greater efficacy and availability.

I usually administer at first a hypodermic injection of about a quarter of a grain of morphine. Then I give, every fifteen minutes, a pill containing a drop of a one per cent. solution of nitro-glycerin, or a drop of the one per cent. solution on a lump of sugar. If the differential diagnosis has been correctly made, this plan will cut short nearly every paroxysm in which it is used, and in which there are no specific ætiological complications. If, for instance, the cause is malaria, a large dose of the sulphate of quinine should be given instead of the morphine. Half a drachm will not be too much in ordinary cases.

In the intervals between the paroxysms, nitro-glycerin, or glonoin, as it is often called, should be given steadily for several months, a drop of the one per cent. solution being taken three times a day. In addition, the bromide of sodium, or some other of the bromides, should be persistently administered during the same period. Their influence is antagonistic to all kinds of spasm, and hence they tend to prevent that condition in the vascular coats.

In the angio-paralytic form of migraine, galvanism, applied as in the form just considered, is often equally efficacious in cutting short a paroxysm. Cold to the nape of the neck is also useful, and compression of the carotid artery of the affected side with Dr. Corning's instrument sometimes acts like a charm. Internally, thirty or forty grains of guarana will often cut short a seizure, as will also ten grains of caffeine, or even strong coffee or tea.

Better still is a large dose—a hundred grains—of the bromide of sodium.

This rarely fails to abort a paroxysm. In the intervals between the paroxysms the treatment should consist of bromides, ergot, and strychnine. In both forms the stomach and bowels must be kept in good condition.

Dr. Allan McLane Hamilton relies upon ammonia (large doses), either the carbonate, muriate, or aromatic spirits in the paroxysm, and digitalis, digitalin, or nitro-glycerine in the intervals, to maintain an even state of vascular tone. Dr. Alfred L. Carroll, recognizing the potency of reflex nervous influence in causing migraine, does not believe that any special remedy can be particularly recommended, but says that we must hunt for and remove the cause in each particular case, though at the same time, he has had good results in so-called idiopathic cases, that is to say, when the cause eludes detection, from the long-continued use of small doses of cannabis indica ($\frac{1}{3}$ to $\frac{1}{2}$ grain of the extract), which probably acts by so obtunding nervous sensibility, that the remote cause is not able to make its presence felt, though the disease remains and is not cured. We must therefore continue to regard migraine as a *symptom*, and to relieve it must search out and remove the cause.

Purulent Urine After Catheterization.

Dr. J. Sinclair Holden thus writes in the *Brit. Med. Jour.*, Nov. 17, 1883: The important remarks lately made on this subject by Sir Andrew Clark, and again by Jonathan Hutchinson in his address to the Lancashire and Cheshire Branch, offer a new and suggestive explanation of a form of disease by no means uncommon, and call the attention of our profession to its prevention.

The purulent condition of urine which sometimes follows in cases of continued retention from any cause, not alone prostatic, has been usually attributed to the irritation of the residual alkaline urine exciting acute cystitis. This explanation will no longer hold good, when it is possible for an antecedent and external cause to exist, capable of producing these changes in the urine, in the form of septic germs or matter, introduced by the catheter. In the majority of cases of retention, the catheter can be used with impunity daily for a long time, and prolongs life; but there are other cases in that state of health which renders them peculiarly susceptible to septic changes; in these, there can be little doubt that from the use of a catheter not absolutely clean, or from its admitting impure air into the bladder, putrefactive changes ensue which quickly imperil life.

I have lately had three cases in which this last condition occurred, but fortunately was able to check the commencing cystitis before it had become dangerous. The means adopted were simply antiseptic injections in the bladder each time I used the catheter. After the urine was withdrawn, from two to five ounces of warm carbolic lotion (1 to 100) were injected by a bulb-syringe, slipped on to the catheter by means of a short bit of rubber-tubing: the fluid was held in the bladder for about half a minute, and then allowed to be ejected. This little operation was always easy, rapid, and gave no pain. One of these cases of retention was due to prostatic disease; it came on suddenly after some fatigue; the catheter had to be used three or four times a day. On the third day, I noticed a slight cloudiness in the last few drops of urine withdrawn; and, when examined microscopically, it was found to be due to numerous pus-cells. The antiseptic injections in a few days completely checked the formation of pus, and quieted the irritable state of the blader; the injections were continued until he found himself able to micturate naturally, which he did in about a week. The other two cases occurred with ladies after difficult parturition. Spasm of the neck of the bladder, from the bruising of the urethra, set up retention of urine, requiring the frequent passing of the catheter; in both cases, pus appeared in the urine after a few days, and in both it disappeared under the influence of the antiseptic injections. In one of the cases, I do not think that the catheter was much to blame, as urethritis preceded the cystitis, affording an external communication by which bacteria might travel to the bladder, the catheter, no doubt, assiting the introduction.

As it is impossible beforehand to discriminate which cases of retention of urine will escape, and which will succumb to the danger arising from the presence of septic matter in the bladder, it is all the more necessary to adopt antiseptic precautions in every case of catheterization. One precaution is very obvious—that is, only to use an absolutely clean catheter. To insure this, it should be washed in a 1 to 20 solution of carbolic acid both before and after using it. For anointing it, I use a thymol-ointment—ten grains to one ounce of vaseline. The catheter is thus perfectly aseptic. The general adoption of catheters without the *cul-de-sac* beyond the aperture, as recommended lately by my friend, Dr. Allan Ward, would get rid of a favorite hiding-place for dirt, and facilitate their being washed.

But it is not sufficient to have only a clean catheter. Impure air may enter the bladder through the cleanest catheter, and particularly the female one, and may excite purulent inflammation. This air can be prevented from being injurious by injecting one or more ounces of warm carbolic acid solution, of 1 to 100 strength, into the bladder after the urine is drawn off, and allowing it to escape just as the catheter is withdrawn.

Until some better method of antiseptic catheterization is discovered, these precautions will be found, I trust, both effective and practical.

Cases of Thickened Epidermis Treated by Salicylic Plaister.

Before the Clinical Society of London (*Med. Press*, November 28, 1883), Dr. THIN gave an account of cases of thickened epidermis treated by salicylic gutta-percha plaister. The plaister which he used is manufactured by Herr Biersdorf, of Hamburg, at the suggestion of Dr. Unna, who has introduced it into practice. The first case which he related was that of an adult man, in whom a tendency to extreme tylosis of the soles and palms is hereditary. The palms and soles in this man's case were covered with an extremely thick and hard epidermis, and had been for many years in this condition, the affection having resisted very varied methods of treatment. The treatment by the plaister was in the first instance recommended by Dr. Unna and the author simply continued Dr. Unna's treatment. Under the use of the salicylic plaister which was kept constantly applied by means of bandages, and changed every third or fourth day, the hard layer of epidermis came off in one mass, leaving a delicate rose-colored epidermis behind it. There was neither pain nor inconvenience connected with the use of the plaister, and the patient, a business man actively employed, was able to follow his usual avocation without interruption.

Case 2. A gentleman, æt. 72, who had always been healthy, was unable to walk for a period of six or seven months on account of an attack of sciatica. When the sciatica was relieved he somewhat suddenly resumed his professional employment in the city, which at the time involved a good deal of walking on the hard pavement. The result was that the soles of both feet became hot and tender, and after a few weeks the skin of the ball of each foot became hard and horny. When he consulted the author this condition had lasted for about seven years, and gave rise to much pain and discomfort. The whole of the surface of the ball of one foot and part of the surface of the other was covered with a layer of epidermis of extreme hardness. In this hard layer there were small isolated horny formations of the nature of corns which produced the same sensation as if the patient were walking on shot, or small hard stones. The first treatment recommended was the application of strong solutions of potash and scraping with a sharp spoon, and wearing a horse-hair pad in a large boot. This alleviated the condition, but the application required to be frequently repeated. The salicylic plaister relieved the condition for several months at a time.

Case 3. In a gentleman, æt. 43, the palmar surface of the right forefinger had been covered for years by a thick hard fissure of epidermis. After this morbid formation had been removed by the salicylic plaister, the skin of the finger had remained normal when the patient was seen by the author nine months afterwards.

Case 4. A gentleman, æt. 42, had suffered from this condition of his heels for about twenty years. It had begun by the skin being red, tender, and scaly, and the hardness had gone on progressively increasing. The condition had been on several occasions mistaken for syphilis, and amongst other methods of treatment which had been employed in vain, several anti-syphilitic courses were to be reckoned. When seen by the author, the skin of both heels was covered by thick, hard, horny, uneven masses, which rendered walking very painful. Solutions of potash and a scraper which were first recommended had been used faithfully for a year almost daily, but with only temporary alleviation. When the author became acquainted with the specific action of the salicylic plaister it was recommended to the patient. Although by its use the tendency to horny formation is not removed, yet the hard masses have been completely got rid of, the patient can walk with comfort, and with the occasional use of the plaister the fresh formation of hard masses is avoided. The author regards the condition of which these cases are examples as being essentially allied to eczema. The formative power of the epithelium is injured mechanically or otherwise, and an imperfectly formed epidermis results. By its solvent power on horny epidermis, salicylic acid incorporated with gutta-percha, as in Biersdorf's plaister, frees the skin from an adherent irritating mass, and the deeper layers of the rete mucosus are placed in more favorable conditions for regaining the physiological properties.

Mr. Butlin said that Mr. Thomas Smith had employed salicylic acid to remove a wart on his own person, the unhealthy appearance assumed by the growth having caused him much uneasiness from its resemblance to an epithelioma. Since this experience the remedy had been used with some success in cases of ulcerating carcinoma, rodent ulcer, etc. In a case of epithelioma of his own, however, he (Mr. Butlin) had not employed the salicylic acid, having agreed with Mr. Smith that, though it might prove of service, yet his duty to the patient demanded more positive and reliable immediate treatment. Hitherto he had known of no real example of epithelioma so cured, and was disappointed at not hearing from Dr. Thin that such results had been obtained.

Mr. M. Baker described a case occurring in the syphilitic female ward at St. Bartholomew's Hospital, in which a number of warts were reduced by application of a cream of salicylic acid vaseline. He thought the preparation used by Mr. Smith resembled the "corn solvine" sold in shops, which consisted of a saturated solution of this acid in collodion.

Myocarditis in Diphtheria.

The London *Med. Record*, Nov. 15, 1883, says that UNRUH (*Jahrbuch für Kinderheilkunde*, Band xx., Heft 1) has met with myocarditis in eight out of 237 cases of diphtheria, and also in one case of scarlatina. Of these nine, six were boys. Two of the children were 6 years old, two 11 years old, and the remaining five were aged 7, 8, 9, 10, and 12. There was nothing in the history of any of the cases to account for an affection of the heart. The dipththeria was always of a severe kind, and involved the uvula and pillars as well as the tonsils; the false membranes were fetid and of a dirty greenish color, and left deep ulcers after their removal. The heart-affection began to make its appearance as soon as the diptheria had ceased to spread. This was from the seventh to the fourteenth day, except in one case, where it was delayed until the twentieth day. The first symptom of the heart being involved was furnished by the pulse, which suddenly became small and empty. Its frequency was at first unaltered, but, after twenty-four or thirty-six hours, was greatly increased (160–180); at the same time, the pulse became irregular. Both these qualities were greatly aggravated by changes of position. The heart's impulse was, in this stage, perceptibly and palpably weaker, and a little to the right of its normal situation. The heart's dullness extended in all the cases beyond the midsternal line, and in two (one being the fatal case) it reached a finger's breadth beyond the right sternal margin. With convalescence, it returned to nearly its normal dimensions. On auscultation, the first sound of the heart was diminished in intensity; and, when the complaint was at its height, a blowing sound, like a chlorotic murmur, was heard. In only one case was there any præcordial pain. No information was derived from the thermometer. No purpura or other hæmorrhage was observed in any case; and, somewhat remarkably, dyspnœa was absent in all. The patients were drowsy and apathetic, indeed too much so to ask for nourishment. Albuminuria was present in all. The albumen first appeared when the diphtheria was at its height; then it subsided, but reappeared in greatly increased quantity soon after the heart-affection showed itself. At the same time the urine diminished in quantity, and œdema, with in one case ascites, set in. The first symptom of amendment was the lessening of the albumen.

Of the nine children only one, a boy aged 11, died. The heart in this case, examined *post mortem*, exhibited a number of rather dark-colored deposits of various sizes, some imbedded in normal muscular tissue, others in tissue which showed fatty infiltration or degeneration. The fasciculi were separated by spaces occupied by numerous cells. The striping was faint or imperceptible. All of these changes were more marked on the right side. There was no extensive fatty degeneration of the heart.

The first few cases were treated with digitalis or ergot, but neither drug had much effect. Camphor was then tried, and with marked benefit. It was given in combination with perchloride of iron. Stimulants were freely administered. The author anticipates the objection that the cases which recovered might have been simple neuroses of the heart, and founds his strongest argument against it upon the widening of the præcordial dulness. But this was marked in two cases only.

[The author would have done better to have given separate notes of the fatal case. But the weakest part of the paper is that which relates to the necropsy. We are not informed upon the following points: 1. Was the heart dilated or enlarged? 2. Of what nature were the 'numerous cells?' 3. Did these cells represent the structure of the dark deposits? 4. Were the spots found in any other organ? In the absence of information upon these points, the diagnosis of even the fatal case cannot be unhesitatingly concurred in.—*Rep.*]

Aphasia.

The *London Med. Record*, Nov. 15, 1883, tells us that Charcot's lectures on this subject, previously unpublished, have been reported (*Gazz. degli Ospitali*) by Dr. Rummo, with the consent of the author. Aphasia is divided into four varieties, depending upon the elements of which speech is composed. Two are motor, and two sensory. The motor forms of aphasia are: first, loss of memory of the processes used in articulating; and secondly, loss of memory of the processes used in writing—agraphia, or aphasia of the hand. There is no paralysis; other kinds of movement are performed without difficulty. The motor memory for those special movements is alone destroyed. The sensory forms of aphasia are: first, visual aphasia or loss of memory for written signs (*word-blindness* of Küssmaul); and secondly, auditory aphasia or loss of memory for spoken words (*word-deafness* of Küssmaul). The chief value of these lectures lies in the fact that, while these different varieties of affections of speech are usually seen only in combination, Prof. Charcot has had the good fortune to see the two motor forms and the visual absolutely separate and uncomplicated. One patient was unable to speak, although he could read, express himself in writing, and understand what was said to him. One instance of pure agraphia was observed. The patient could speak, read, and understand what he heard; he had simply forgotten how to write. Another patient could speak, could understand what was said, and, though able to express himself in writing, was unable to read, and it was only by retracing the characters that he was able to spell out even what he had himself written. The cases of word-deafness that have been recorded have been very rare, and the author does not think that they are at all conclusive. In regard to the localization of the visual centre, experimental research is put aside for two reasons. In the first place, it is not safe to argue from dogs and monkeys to men; in the second place, the results obtained by different investigators are at variance; Ferrier, for example, placing this centre in the *pli courbe* (angular gyrus), Munk in the occipital lobe. The centre for the motor memory of articulation is fixed by necropsies for right-handed persons in the foot of the third left frontal convolution. One case is on record in which the island of Reil was alone affected. The motor memory for writing is ascribed by Exner to the foot of the second left frontal convolution. The visual and the auditory memory for words are seated respectively above and below the horizontal branch of the fissure of Sylvius; the visual centre being in the *pli courbe*, the auditory in the first temporo-sphenoidal convolution. It may be added that the author and Pitres are preparing a work to establish their view, that all the motor centres of the cerebral cortex are grouped in the two vertical convolutions respectively in front of the fissure of Rolando and behind it; namely, the ascending frontal and the ascending parietal. It should be mentioned that hemiopia or more or less narrowing of the field of vision usually accompanies word-blindness (loss of memory of written signs); a fact generally unobserved. Hemiopia is, therefore, sometimes due to a cortical, and not to a basilar lesion or affection of the optic tract. It may be added that the honor of having sown the first germs of the theory of word-blindness and word-deafness is assigned to Broadbent. Although that author did not coin special names for these disorders of speech, he and Bastian must be considered forerunners of Küssmaul and Werniche.

Digitalis in Shock.

Dr. F. Cauthorn, of Oregon, thus writes in the *College and Clinical Record*, September 15, 1883:

When a contributor to a work of the extent of the "International Encyclopædia of Surgery," in treating of such a common accident as "shock," disposes of the use of so well-known a drug as digitalis, by reference to its use in one case, it seems that any contribution of experience in its use, no matter how small, ought to be brought forward for consideration. Hence the following:—

I was summoned, about 10 a. m., July 19th, in haste, to see Mr. K—, aged 22, who was reported to have met with a serious accident. Was by the side of the patient in about twenty minutes. Found, upon inquiry, that, while coming down a hill, on a wagon loaded with lumber, his horses had become unmanageable and run away, throwing him before the wagon, which passed over him, fracturing five or six ribs of the left side, and producing great contusion of the muscles of the back. In addition to this there were numerous abrasions and contusions of various parts of the body. Thus much of the extent of the injury, as explanatory of the cause of the shock.

The accident had happened about half an hour before my arrival. The condition of the patient was as follows: Pulse very feeble, just perceptible at the wrist, 165; extremities cold, especially hands and feet; ears and lips livid; circulation very imperfect; condition evidently one of threatening dissolution.

Gave immediately fifteen grains of carbonate of ammonia and one ounce of brandy, together with half a grain of morphiæ sulph. hypodermically, to relieve the pain. Repeated the brandy and ammonia frequently, up to 2 p. m., with the effect of improving the general circulation somewhat, though it was still not satisfactory. The pulse was still at 160, having gained a very little in volume.

The condition was one well calculated to start the physician off through the fields of experience, and reaching, mentally, in quest of some other expedient. The weak and rapid action of the heart seemed to be calling for a more powerful tonic, something that would lengthen the systole. Digitalis suggested itself as the much needed remedy, and I resolved to give it a trial, and in sufficiently large doses for immediate effect. Hence, at 2 o'clock gave 15 drops of the fluid extract. At 3 o'clock, one hour after, pulse had fallen to 140, and had correspondingly improved in volume. Gave 12 drops at 3 p. m., and 4 drops at 4, 5 and 6 p. m. Ordered the medicine in 4-drop doses, every two hours during the night. Condition of patient continued to improve until, at my call on the following morning, the pulse was 108 and of fair volume, with temperature of 99½. At present writing, 20th day since the accident, my patient is fairly convalescent. The traumatic fever lasted about seven days; the maximum temperature being 102°. The digitalis was continued in lessened quantity until fever had entirely disappeared. Notwithstanding that there was retention of urine for the first 48 hours, necessitating the use of the catheter, the kidneys performed their function well, the amount of urine drawn off equaling that in health, if not in slight excess; this I attributed to the diuretic effect of the drug.

I may add that for the fractured ribs I used the plaster dressing recommended by Ashhurst. But the only point of particular interest to be noted is the rapid response of the weakened heart to the large doses of digitalis; the 15 drops being equivalent to about one fluid drachm of the tincture, as ordinarily made from the fluid extract.

Prophylaxis Against Malaria.

The *St. Louis Courier of Medicine*, November, 1883, says editorially: In a late number of the *British Medical Journal* a correspondent from Rome gives a very interesting account of recent legislation by the Italian Chamber of Deputies, requiring landed proprietors to put under cultivation any land belonging to them in the Campagna within a certain distance from the Roman forum.

This law is regarded as calculated to effect most important changes in the way of public hygiene. It is believed that the thorough drainage and cultivation of the Roman Campagna will redeem that immense tract of land, which has been now for so many years given over to desolation and disease by reason of its pestilent miasm, and make it again a source of profit to the country by reason of its fertility, instead of being a curse and a constant loss on account of its fatal influence upon those who attempted to dwell there. It has been shown that in former ages there was a system of thorough subsoil drainage, which was allowed to be destroyed and become useless.

Already a zone of a mile and a quarter around Rome has been brought under fairly good cultivation, and the new laws will bring under cultivation a zone of six miles around the city. It is difficult, as the writer remarks, to overestimate the immense value of such a measure.

He further refers to a letter written by the celebrated Italian investigator and physician, Professor Tommasi-Crudeli, relating to prophylaxtic measures which should be taken in order to protect the laborers on the Campagna, whose presence will be necessary there even in the unhealthy seasons of the year in order to carry into effect the provisions of this law and secure the drainage which is to make that miasmatic region once more safely habitable.

He refers to the advantage to be derived from providing suitable food, and housing the laborers in the more healthy part of the Campagna, or providing sleeping quarters elevated above the ground in the trees, as has lately been done for the laborers on the Isthmus of Panama.

Quinine and salicine have undoubted prophylactic properties, but these drugs are costly, and when taken for a length of time derange the system to some degree. Professor Tommasi-Crudeli secured the co-operation of Dr. Riechie, the chief medical officer of the South Italian and Calabrian railways, in order to test thoroughly the prophylactic virtues of arsenic. The result of their observations, as found in the report of that physician to the director-general of the company, shows that when the arsenic was given carefully and in sufficient doses decided results were produced.

The results as detailed certainly warrant further testing of the prophylactic value of arsenic. In the experiments already referred to the remedy was administered in gelatine lamels or wafers, each of which contained about one thirty-fifth of a grain of arsenious acid. One lamel was given daily for four days, when the dose was doubled, and after four days a third was added, and so on, till four were taken daily. In a few cases the dose was increased till seven lamels, about one-fifth grain, were administered daily, and apparently with better results.

Petroleum in Phthisis.

Dr. M. Milton thus writes in the Cincinati *Lancet and Clinic*, Sept. 22, 1883: The almost hopelessness of phthisis pulmonalis in the most ordinary cases behooves us to be on the lookout for even a palliative. One theory after another is swept away. Pathological investigation of the most minute microscopical kind fails to detect the cause of this dread disease. The discovery of Koch led us to hope that the cure of it was in our reach, but his supposed discovery of the bacillus has been proved fallacious by other investigators. We are as much in the dark in regard to the ultimate cause of tubercle as ever.

Laying all theory and scientific investigation aside, what can be done in the way of treatment?

Reading an article several years ago by Dr. M. M. Griffith, of Bradford, Pa. (oil country), in regard to the use of petroleum mass in phthisis and chronic bronchial diseases, I have ever since followed his plan and with the most gratifying results:

Case 1. A wood-chopper, complete dullness on left upper lobe of lung, no expectoration, hacking, irritative cough, good appetite, night sweats; he did not think there was anything wrong with him, didn't know what; had no fever, pulse and temperature somewhat above normal.

I gave him a box of petroleum pills, four or five pills daily, and to paint the left lung night and morning with tincture of iodine, to remain in the pine woods and report every two weeks.

He followed my directions promptly, and after three months' treatment, I fail to find any remaining dullness or cavity, respiratory murmur perfectly clear, night sweats and cough entirely gone. To all appearances he is cured. He states that "he can peel as much bark and chop as many logs as ever." The deposit seemed to be absorbed without cough or expectoration. There was no hereditary taint in his family.

Case 2. Mr. J. B., aged 39, fair skin, sandy hair, blonde, occupation miner, family history good, called to see me December 1, 1881. For a year he had pain in chest, cough, expectoration and chills. Emaciation of body. Pulse 100, standing; respiratory murmur increased; slight dullness on percussion of the left upper part of lung; pain sharp, with tenderness on pressure and percussion; cough irritated the larynx; expectoration tough, difficult, brownish, about two ounces per day. Had chills, with hectic fever following, dyspnœa and palpitation, skin dry and harsh. This was plainly a case of phthisis pulmonalis.

He was given petroleum pills, one five times per day, counter irritation over diseased lung. ℞.—Tincture Calisaya, iron and strychnia. Teaspoonful ter die.

The first time I saw him after prescribing was one month. The improvement was considerable, cough and expectoration diminished, appetite fair, pain in lung did not trouble him much, stopped the tonic, continue the pills and use no other medicine.

In six months from December 1st he writes me that his health is better than for years. He has resumed his work in the mines and feels strong and well.

At this date he writes me that his old trouble has not returned. I think this was a genuine case of consumption cured. I have a list of fifteen cases of what I consider true phthisis—ten of which were to all intents and purposes cured, three very much benefitted and two died. It is not only in phthisis that the petroleum acts beneficially but in all old chronic bronchial diseases. I have nothing new to offer more than has been said by others. I am sure this remedy is not receiving the attention it should by the profession. The dose usually prescribed is too large. The mass is the most eligible form of administration. I have very little experience with the oil, do not use it at all, the pill form being the most convenient and eligible.

Tonic Spasm of the Trapezius Muscle of Malarial Origin.

D. L. Emmet Holt reports a case in the *New York Med. Jour.*, Dec. 8, 1883, in connection with which he makes the following remarks:

The ætiology of these cases of tonic muscular spasm is a matter often of great obscurity, as nearly all authors on nervous diseases agree. The cases which develop gradually are more easily explained than those which come on suddenly, like the one reported. In the former, cervical bone disease, central brain and cord lesions are often found to be the cause. The latter are generally attributed to cold or to some other reflex influence which may come from the teeth, the stomach, intestinal worms, uterus, etc. They are occasionally seen as sequelæ of the eruptive fevers, especially scarlatina. A few years ago Bohn published two cases which were referred to malarial poisoning. One was in a girl of five years, and accompanied the paroxysms of a tertian intermittent. The other was in a child of two years, and was quotidian. Similar cases have also been mentioned by Steiner, Bouchaud, and Romberg. I have been unable to find that any have been recorded in this country except one that I myself reported in another connection.

This was a case of spasm of the sterno-mastoid which left very little room for doubt in regard to its malarial origin. It occurred in a boy of eight years, who had had a well-marked malarial paroxysm, coming on every afternoon for two or three days, accompanied with torticollis. This disappeared during the night, and in the morning the neck was perfectly movable, and remained so until about two o'clock, when the symptoms came back as before. Two paroxysms were witnessed before any active treatment was begun, in order to settle the question of diagnosis. Quinine was then administered in full doses, with the effect of controlling completely both the torticollis and the constitutional symptoms. A little tenderness was present over the muscle in this case, but no pain except on attempts at movement. There was much splenic enlargement. The quinine was kept up for a few days after the symptoms subsided, and then stopped. The case was seen one month later and no relapse had occurred.

In the case which forms the subject of this article, I do not think the evidence sufficiently strong for one to say positively that the cause was malaria. That an obscure case is relieved promptly by quinine is by no means conclusive proof that it depended upon this poison, although this is an inferenee which is too often drawn.

To my mind it furnishes, in this instance, a very strong presumption, especially when taken in connection with the slight febrile movement and the marked splenic enlargement. A second point of interest in this case is its rarity. Tonic spasm of the sterno-mastoid is very common. It is not very infrequent to find a part of the trapezius also affected in cases of torticollis. A spasm of this latter muscle alone is, however, according to almost all the authors on nervous diseases, of exceedingly rare occurrence. The only picture of the deformity which I have been able to find is given by Ross, and taken from Duchenne. This shows a lateral deflection of the head, but the shoulder is not raised, and it conveys but a very imperfect idea of the affection.

The Rational Treatment of Dysentery.

The *Med. Record*, October 20, 1883, tells us that Dr. KOBRYNER (*Bull. Gen. de Therap.*, June 15, 1883), deprecates the routine treatment of dysentery:

The proper treatment, he thinks, consists in fulfilling the indications presented by the disease, and not in the routine method, based on pure empiricism, of forcing down immense doses of ipecacuanha. There are, he argues, five special indications to be followed in the treatment of the grave forms of dysentery. The first is to rid the patient of everything that may aggravate or keep up the morbid condition. This end is to be attained first by the administration of an emetic. In the milder cases this is not necessary, as the onset of the disease is usually preceded by a longer or shorter period of general malaise, when there is but little appetite. The patient eats only a little light food, and the stomach consequently is nearly or wholly empty. In dysentery of severe type, on the contrary, especially in times of epidemic, the invasion is sudden, and the patient may be seized shortly after the ingestion of a full meal. The process of digestion is suddenly arrested, and the stomach must be relieved of its load as speedily as possible. Then the rest of the digestive tract requires attention. The intestines are filled with a quantity of fecal matter which must be got rid of. This is to be accomplished by the administration of any of the ordinary salines or laxative mineral waters. In mild cases this is all the treatment usually required. The second indication is to moderate the fever. This end Dr. Kobryner attains by a restricted diet. When the fever is high the fast must be absolute, but as soon as it begins to fall some light soup may be allowed. Solid food is not allowed until the patient is absolutely free from fever. Infants at the breast may be permitted to nurse, but must take only a little milk at a time. They should not be urged if they refuse the breast. In bottle-fed infants, milk is not allowed, but they can have only light broths and a little albumen and water. The third indication is to relieve the colic. While opium is the specific for pain, it is not to be thought of in dysentery. Notwithstanding all our efforts to unload the bowels, it often happens that hard fecal masses are expelled from time to time, and if opium is given they are retained and increase the irritation. The remedy for the colic of dysentery is calomel. In spite of its ordinary action in increasing the intestinal discharges, it relieves the pain, and, in this case, diminishes the number of the dejections. The fourth indication is to restore the blood to its normal richness. This is a most important part of the treatment, and is best accomplished by perchloride of iron in doses of eight drops per diem for nursing infants, and a proportionate amount for older patients. In addition to this may be given a drink of white of egg in water (the whites of six or eight eggs to a quart of water). It is not until the sixth or seventh day that the signs of impoverishment of the blood become evident, so that the treatment by iron and albumen is not to be begun until that time. The last indication, which is met with in only a certain proportion of cases, is to treat the intermittent character of the symptoms. Quinine is the remedy here.

A Note on the Treatment of Cardiac Dropsy.

Dr. JAMES BRAITHWAITE thus writes in the *Lancet*, Nov. 17, 1883: Although the diuretic action of digitalis in cardiac disease with dropsy is perfectly well known, it is very rarely indeed prescribed in this part of the country in that form in which its diuretic action is most marked. My attention was drawn to this as long ago as fifteen years since by the following case:

A man with extreme anasarca from cardiac disease, but without as yet the appearance of the skin or the legs indicative of threatened dermatitis with sloughing, passed several days and nights sitting on the edge of the bed, suffering from extreme dyspnœa. Southey's capillary tubes were not then invented, and I always punctured the legs with a needle in cardiac dropsy with great reluctance. I ordered the patient to drink freely of freshly prepared but weak infusion of digitalis. This caused a very copious secretion of urine, which continued until the dropsy had entirely disappeared, and the man actually resumed his occupation of traveling for orders in some business, and I saw him about in the streets occasionally for several years.

From that time I have invariably used this treatment, and some of the cases have been very remarkable. I generally order half a small or medium-sized leaf to be infused, with the addition of a little black tea, in about twelve ounces of boiling water, and taken daily. By this means we get the full diuretic effect of the drug, in addition to its action on the muscle of the heart. The action of the ordinary tincture and of the powder given in pill is, as a diuretic, hardly noticeable, and the usual combination with squills, solution of acetate of ammonia, and spirit of nitric ether is much inferior to the infusion. A few months ago I saw, with a gentleman in Leeds, a case of cardiac dropsy very similar to the one related, and his first words when we were alone were, "Well, I suppose you will say that it is a case in which no good can be done?" and he was apparently surprised at my reply, "On the contrary, I think it a very promising case." I heard some weeks afterwards that that patient was getting better, or was very much relieved. The fact is, there are many cases of cardiac disease in which a complete breakdown would not have occurred but for some external circumstances—I mean external to the heart—as an attack of bronchitis or impairment of the health by want of rest, especially if combined with food that is poor in quality; and when dropsy has once occurred, the circulation becomes more and more embarrassed. Let, however, the dropsy be removed, and another chance is given to the heart to recover itself. In this it is aided by the action of the drug on its muscular fibre and by the absolute rest of the patient. Once a year, during some country journey in autumn, I collect a quantity of leaves and dry them for use. The matter is by no means new; but I have taken the opportunity of asking various medical men about their use of digitalis, and have only met with one who uses it in infusion.

Deaths from Erysipelas Following Vaccination.

The *Med. Times & Gaz.* Nov. 24, 1883, says that a protracted inquiry was recently held in England on the body of an infant who became ill soon after vaccination and died. Another child, who had been vaccinated with the same lymph, had died previously. After the death of the second child (the subject of this inquest), a Local Government Board inquiry was solicited, and Dr. Airy went to Great Cornard to investigate the circumstances—an inquiry which was not completed when the inquest was held. Counsel appeared at the inquest for the parents of the deceased child, (representing, evidently, the Society for the Abolition of Compulsory Vaccination). Dr. Mason, the public vaccinator, deposed that the the father of the first of the three children who had died after vaccination, a man named Elliston, had been suffering for some time from a wound in the leg, and that subsequently he went into the hospital. The lymph used for Elliston's child was from a child whose parents are perfectly healthy and well. The same lymph had been used for other children without any evil results. The lymph used for the child, the subject of this inquiry, was taken from Elliston's child. Dr. Mason visited the deceased after vaccination, hearing that it was ill, and found it suffering from decided erysipelas, which spread rapidly and ended fatally. He had attended Elliston's child after vaccination, and it had also died from erysipelas. He was of opinion that infection was present in Elliston's child at the time of vaccination, but he did not actually see it then; and that the lymph used from the child was the means of communicating the erysipelas to this deceased child. He thought the public vaccination station was not a suitable place, and it was in an unsanitary condition. He recorded the cause of death as erysipelas, deeming reference to vaccination unnecessary. Dr. Airy observed, with regard to the tirade of counsel against the Local Government Board, that they were carrying out the provisions of an Act of Parliament expressing the will of the nation. The coroner, in summing up, remarked that the case was not an ordinary one. The fact of three children dying from erysipelas arising from vaccination made him think it was one which ought to be inquired into, and if the Board of Guardians had provided a more suitable place for vaccination, some good would have been done. No one was to blame in respect to the deaths, or guilty of negligence. They would say, by their verdict, whether erysipelas was caused as pointed out by the medical evidence, or was conveyed by vaccination, or communicated to this child by vaccination from a child who probably had it in her system, and who died of the disease. The verdict was, "That the deceased died from erysipelas conveyed by vaccination from a person suffering from erysipelas." The inquiry was a protracted one, and appears to have been conducted by the Coroner, under very trying circumstances, with praiseworthy firmness and fairness.

Gonorrhœal Rheumatism.

In the *Med. News* October 20, 1883, we read the following: In a paper on this subject in *Guy's Hospital Reports*, vol. xli., MR. J. N. C. DAVIES-COLLEY suggests that there are several distinct affections confused together under the name gonorrhœal rheumatism, which he enumerates as follows:

1. *Gonorrhœal synovitis*, a chronic affection, occurring in the male, generally in the knee-joints. Very rarely it is acute, and goes on to suppuration.

2. *Gonorrhœal arthritis*, an acute affection, occurring in the female quite as often as in the male; as a rule, attacking at the outset several joints, and afterwards confined to one, most frequently the elbow-joint, affecting especially the fibrous tissues of the joint, and only secondarily the synovial membrane and cartilages.

3. *Gonorrhœal inflammation of fibrous structures not connected with the joints, e. g.*, the plantar fascia, sclerotic, iris, the peri-and endocardium; this gonorrhœal inflammation of the plantar fascia sometimes occurs in the acute form. Inflammation of the first three structures usually occurs in connection with chronic gonorrhœal synovitis. In the last two situations inflammations seem to be generally associated with gonorrhœal arthritis.

With regard to the second class, he says:

1. It usually occurs during the acute stage of gonorrhœa, or some purulent discharge from the genital organs, in adult patients under middle age.

2. It occurs as often in females as in males, if not more often. Of twelve cases recorded by the writer, nine were in females.

3. It may attack any joint, but most often the elbow-joint. Eight of the writer's twelve cases were in the elbow.

4. At first it attacks several joints, like acute rheumatism, and then confines itself, as a rule, to one.

5. Its seat is the fibrous tissue of the joint. There are great œdema, redness, pain, and tenderness. The ligaments are softened, and the cartilage may be disorganized. There is but little synovial effusion, and constitutional disturbance is but slight.

6. It may be confounded at first with acute rheumatism, later on with phlegmonous erysipelas, bursitis, lymphangitis, phlebitis, gout, and pulpy disease of the synovial membrane.

7. It rarely, if ever, suppurates, but is especially prone to set up fibrous anchylosis.

8. The best treatment is to cure the discharge, keep the joint perfectly still, and apply uniform pressure as long as the acute stage lasts, and then to use passive motion.

Angina Pectoris Treated with Nitrite of Sodium.

Mr. W. Collier reports a case that was greatly benefitted (*Lancet*, November 24, 1883), and makes the following remarks:

During the first six weeks of the patient's attendance at the hospital his general symptoms of dyspnœa and œdema were greatly relieved by digitalis, but the anginal attacks were in no way mitigated until after his first dose of nitrite of sodium. Unfortunately the patient would not consent to become an in-patient, and as, after taking the drug for two weeks, he could not attend as an out-patient, owing to an acute attack of bronchitis, it was not deemed advisable to increase the dose beyond five grains, otherwise we have every reason to believe that the attacks would have still further yielded to the nitrite of sodium, more especially as the specimen used most probably was adulterated with the nitrate, the writer having himself taking an eight-grain dose without experiencing any disagreeable effect, beyond a feeling for a few hours of fulness and flushing about the head and eyes. Dr. Hay, in the *Medical Practitioner* for 1883, relates a case of angina, very similar to the present, in which nitrite of amyl and nitrite of sodium were in turn tried, the opinion formed being that the influence of nitrite of sodium and its power of mitigating an attack extended over a much longer period than was the case when nitrite of amyl was used, though it was observed that the effects of the nitrite of sodium were much longer in developing; hence the necessity of taking it some time from ten minutes to half an hour before an expected attack. In this paper Dr. Hay claims that in therapeutic doses, nitrite of sodium, while producing all the beneficial effects of nitrite of amyl, does not produce the disagreeable general effects of nitrite of amyl—headache, giddiness, etc. There is one other great advantage, its cheapness, as Professor Balfour has shown that only a freshly prepared specimen of nitrite of amyl, or one that has been kept in an hermetically sealed capsule, is trustworthy as an old specimen, though it may produce all the usual symptoms of the drug—flushing of the face—will often not relieve the angina, which will at once give way to a newly prepared specimen. Now an ordinary dose of nitrite of sodium would cost considerably less than one cent, while the nitrite of amyl capsules cost between 6 and 10 cents, the latter being quite beyond the reach of out-patients, who in many cases would require from six to ten per diem.

Hemianopia—Half Blindness.

Dr A. G. Sinclair, reports this case in the *Mississippi Valley Med. Mo.*, December, 1883:

The patient, male, aged forty-six, consulted me in April last for defective vision. He had been treated for syphilis twenty years previously, and had apparently quite recovered, his health having remained good until six months before I first saw him. At that time his memory began to fail and soon became so defective as to render him quite incompetent to conduct his business—that of a merchant. During the same period he had gained enormously in weight. Three months after the mental disturbance began, his intention was called to defect of vision by frequently falling over obstacles in his path, which, though large enough to attract attention under ordinary circumstances, he quite failed to observe.

The reason of these mishaps became apparent when on examination I found the left half of the visual field in each eye absolutely wanting, the line of demarcation between the sensitive and the blind half of each eye being vertical. Investigations in experimental physiology, in anatomy and pathology have shown that hemianopia may be caused by lesions of the cortex of the posterior occipital lobe of the brain, the intermediate ganglia, as, for example, the thalami optici, the corpora quadrigemina, etc., or of the optic tract or the chiasm. No changes were observable with the ophthalmoscope, but from the portions of the visual fields involved, it was evident that the nerve lesion was upon the left side and posterior to the optic commissure. The nature of the lesion could, of course, be only a matter of conjecture, but surmising that it was a sequel of the venereal attack of twenty years before, the patient was placed upon anti-syphilitic treatment, together with nerve tonics. The use of liquor, to which he was somewhat addicted, was prohibited. Both vision and the mental condition of the patient soon began to improve, and with three months' treatment both were perfectly restored. During the same period the obesity also underwent very considerable diminution.

The Use of Cardiac Tonics.

Before the Liverpool Medical Association (*Med. Press*, November 21, 1883,) Dr. LOGAN read some notes of cases illustrating the use of the cardiac tonics—digitalis, stropanthus, squills, and convallaria.

The observations were all made in the Liverpool Northern Hospital, on patients suffering from advanced mitral regurgitation. The notes were graphically illustrated by sphygmographic tracings taken before and after the administration of the various drugs, and by colored charts showing the pulse and breath rates, and the quantity of urine passed, also before and after the action of the medicine had taken place. His attention had been drawn to the great value of stropanthus whilst in Edinburgh, which as a cardiac tonic had showed itself superior to digitalis as usually administered. He thought it possible that, if the latter drug could be given after a more perfect method, its results might be much improved. With this object in view he obtained permission to treat a number of cases of mitral regurgitation, with larger doses of digitalis than are usually given. His observations were made upon six cases. The digitalis was given in the form of the tincture in ten minim doses every hour, and continued from eighteen to forty-eight hours. The results were astonishing, after twelve doses the patient could sleep, the pulse fell and the urine immediately increased in quantity. After the pulse fell to normal, the digitalis was continued in 10 minim doses twice daily. In a case narrated, the patient was a man, æt. 20. The drug was given every hour for six hours, when great improvement set in. The pulse fell from 128 to 72, the respiration from 36 to 26, and the urine increased from 20 to 30 ozs. Some nausea then came on. Squills given in the like dose and manner, also effected considerable improvement, but showed itself inferior to digitalis. Convallaria was then tried. Ten minim doses of the liquid extract were given every hour. The results obtained were almost identical with those obtained by digitalis. Notes of one case were read as an illustration. The patient was a man, æt. 42, who, like the rest, was the subject of mitral regurgitation. He was suffering from orthopnœa with an uncountable weak pulse, the heart beats, however, were ascertained to be 126 per minute. The convallaria was given as mentioned above, and continued for forty-eight hours. In twelve hours the pulse fell to 62, and the urine increased from 37 to 72 ozs. In the other cases in which the drug was employed, the results observed were similar, a rapid corresponding improvement of the general condition being noted in all.

Case of Hypodermic Transfusion of Blood.

The *Med. Times & Gaz.*, Oct. 20, 1883, says Dr. PALADINI relates the following case in the *Gazzetta Med. Italiana.Lombardia*, for August 25: A woman, forty-eight years of age, had suffered for a long time from menorrhagia, which had reduced her to a condition of extreme anæmia. When seen by Dr. Paladini at the beginning of August, she had frequent faintings, although in the horizontal position, was unable to take food of any kind; and, in his opinion, transfusion was urgently called for, on account of her very exhausted state. As the patient lived in a remote village, where appropriate instruments could not be obtained, he resolved to perform hypodermic injection by means of a syringe having a capacity of about ninety cubic centimetres, and a gum-elastic tube, to which a trocar and canula were attached. He selected the skin of the abdomen, because this was lax enough to be raised in large folds and to receive a considerable quantity of blood. The woman's husband having furnished about two hundred grammes of blood, two syringefuls were successfully injected into the subcutaneous tissue, at four fingers' breadth to the left of the umbilicus, care having been taken to force the trocar far enough in to insure a sufficient space for the reception of the blood. When the blood had been injected, a salient projection about the size of an egg could be felt there. It was calculated that at least 130 grammes of blood had been injected. No pain or other inconvenience was caused by the operation, and in about two hours the tumefaction had disappeared. The next day the uterine flow, which had continued, in some measure decreased, and the patient was able to take food and enjoy some sleep. The report comes down to a fortnight afterwards, when the patient was found to be slowly recovering her strength, but only just able to leave her bed, so great had been her prior exhaustion. The marked success which attended the hypodermic injection in this case leads Dr. Paladini to hope that so easy and innocuous a mode of performing transfusion will be hereafter frequently resorted to. If necessary, from 120 to 300 or 400 grammes of blood may thus be promptly injected by means of one, two or three punctures.

Infectious Nephritis.

The *Med. News*, December 8, 1883, says: Infectious nephritis is the title given to that form of nephritis which is often found associated with erysipelas of the face. It has, of course, long been known that albuminuria is a frequent accompaniment of erysipelas, and although it has always been looked upon as a rather grave symptom, it formerly had no more stress laid upon it than the albuminuria of other acute diseases, as, for instance, typhoid fever and the eruptive fevers.

Since the discovery by Hueter and Nepveu, in 1868, of a microbe of erysipelas, and its more recent recognition in the blood, in the fluid of the blisters, and in the urine of erysipelatous patients, this albuminuria has been allowed a greater significance. It is now an acknowledged sign of infectious nephritis.

In an inaugural thesis recently published, Dr. JULES BLEEHMANN has taken up this subject, and in addition to tracing the history of the urinary symptoms in erysipelas, has added some personal experiences, and has described the lesions and the progress of the erysipelatous nephritis. Throwing aside all other theories which have been suggested, he ascribes the nephritis to the irritant action of the poison germs upon the tissues of the kidney.

That the albuminuria accompanying erysipelas is a part of a nephritic process we satisfied ourselves as far back as 1872. The bloody urine and the epithelial and blood casts could scarcely receive any other interpretation. In view of the recent disposition to ascribe all of the inflammatory processes constituting a part of infectious diseases, to a minute organism, it is to be expected that infectious nephritis should be referred to a similar origin. That it may be due to some irritating constituent of the blood in the infectious disease, just as the nephritis of scarlatina is caused by its poison in the circulation, is a very reasonable supposition. But that it is due to a microbe has not, in our judgment, been proved, and so to assert, with the present evidence, is begging the question.

The Mental Symptoms of Diabetics.

Le Practicien calls attention to certain mental phenomena which it thinks sufficient, in some cases, to establish a diagnosis before a urinary examination is made. A young man who, in consequence of this disease, has lost his virile power, will state the fact of his impotence to his physician with a sort of indifference, very different from the anxious fear displayed by the hypochondriac under like circumstances. At a more advanced stage of the disease, when the quantity of sugar in the urine is considerably augmented, the mental state changes. The patient becomes sad, and is the prey of hypochondriacal forebodings. His character changes—from being free and open-hearted he becomes morose and moody, speaks but little, and smiles less. He becomes parsimonious, and tries to cut down the expenses of his household; begins to keep exact accounts, calculates his resources, and declares that he is ruined and that his family will die in the poor-house. The man of middle age who, without apparent cause and without exhibiting any other mental disturbance, becomes all at once avaricious, and presents delusions of rapidly approaching financial ruin, is most frequently a diabetic. If these melancholic forebodings continue, and, if on examination the presence of sugar in the urine is established, the chances are that the patient will end his life by suicide. In the later stages, after the disease has existed for some length of time, still another mental condition is noted. The patient is lazy, and wants only to be let alone; he will spend hours sitting in his arm-chair or lying on his lounge in a state of complete mental and bodily inactivity; his mind is clear, and his intelligence is unimpaired; but he is apathetic, he has no desire to walk or to talk, and seeks no occupation. Later, while preserving all his mental faculties intact, he begins to indulge in soliloquy, and relates incidents and recalls old memories to himself in an undertone. Finally, he falls into a state bordering on marasmus, and is carried off usually by that most grave of the complications of diabetes—pulmonary phthisis.

The Salicyl-Compounds in Acute Rheumatism.

DR. FRANCIS P. KINNICUTT thus summarizes in the *Med. Record*, December 8, 1883:

First.—In controlling the arthritic symptoms (pain, etc.) and the pyrexia of acute rheumatism they may still be considered as constituting the most successful of all hitherto suggested methods of treatment. Their marked effect upon the pyrexia cannot be explained by their well-known antipyretic power *alone.*

Second.—While controlling the arthritic pains and pyrexia they seem incapable, in many cases, of wholly destroying the rheumatic virus, as is shown in the subsequent development of endocardial and pericardial affections and inflammations of other fibrous and serous textures.

Third.—Further proof is needed of a more frequent implication of the endocardium and pericardium under the administration of the various salicyl-compounds than under any other hitherto advised treatment.

Fourth.—The most efficient, if not essential mode of their administration is in frequently repeated doses (every two hours), that the economy may be kept continuously under their influence; they should be continued in the initial doses during the first ten days of the disease, and given in very gradually diminished amount during the patient's entire convalescence.

Fifth.—Their possible anæmic effects may be rationally combated by the use of iron salts before or with the beginning of convalescence.

Sixth.—A continued experience with the salicyl-compound contained in the oil of wintergreen (methyl ether of salicylic acid), in the treatment of a large number of cases of acute rheumatism, confirms my favorable opinion, expressed a year ago, of its efficiency and other desirable qualities. An efficient dosage is two and a half to three drachms daily. A simple and easy mode of administration is in sealed capsules, each containing ten minims of the oil.

An Unusual Forerunner of Rheumatic Fever.

The *Med. Times and Gaz.* November 17, 1883, says: Most of us are familiar with ear-troubles as an after-result of acute illness, and especially of the exanthemata in childhood, but these have not often been observed, or perhaps, to speak more accurately, have not often been recorded, as occurring amongst the prodromata of an acute illness. Such a connection, however, between rheumatic fever and inflammation of the tympanic membrane has recently been described by M. Ménière, in the *Revue Mensuelle de Laryngologie* for November. His patient was a man aged thirty, who, in consequence of a chill, complained of severe lancinating pain, with remissions and exacerbations, in the ear, and who presented those changes in the form and colour of his tympanic membrane which commonly are the precursors of an attack of otitis interna. On the fourth day, however, rheumatic fever declared itself, and the ear-trouble rapidly disappeared. M. Ménière considers that this was not a true otitis media resulting from the chill, but a peculiar congestive attack without any exudation, and closely associated with the rheumatic attack. He considers that its occurrence may be regarded as evidence in support of the view (which is not, however, confirmed by histology) that the tympanic membrane is partly a serous membrane and partly a mucous membrane. Surely this is very feeble reasoning. Rheumatism attacks fibrous structures as well as serous. If we are to base our minute anatomy on pathological theories, we shall arrive at a good many strange conclusions. For instance, not to leave the present subject, tonsillar inflammations are exceedingly common in association with rheumatism, but we have yet to learn that the tonsils are lined with a serous membrane.

The Treatment of Constipation and Intestinal Obstruction.

Dr. JAMES SAWYER thus concludes his paper in the *Brit. Med. Jour.*, November 17, 1883:

My experience and my reading have led me to the following conclusions: If I had to deal with a case of acute intestinal closure affecting the smaller bowel, other than a case of external hernia, I should allow fair opportunity for relief by such remedies as opium, enemata, time, and belladonna; but I should by no means wait until the patient was *in extremis* before I urged surgical interference. If I obtained the patient's consent to such interference, I should hope my surgical colleague would perform laparotomy and relieve the occlusion, but only if its seat were so near at hand, and its nature so clear, that the operation could be thoroughly accomplished without much search amongst intestinal coils; but I should hope that he would rather perform laparo-ileotomy than subject the patient to the direct and collateral risks of a prolonged effort at disentangling his bowels.

But, as I have already said, our decisions on these topics can only be provisional, as, indeed, all our therapeutic decisions must be, if we be worthy the name of scientific practitioners. The scientific spirit accepts no result as final, but with stern impartiality presses steadily to fuller truth, by ever assimilating the fruits of an ever-widening knowledge. In such a spirit, if we are faithful to it, we shall still expect and still secure further vantage in our conflict with disease; and, in this spirit, our practice shall ever promise progress, and our art attempt and accomplish achievement.

Bloody Tears.

The *Med. Record*, December 8, 1883, says that M. DAMALIX has published an article relating to the rare phenomenon of sanguineous lachrymation. He cites two well-authenticated cases of this curious affection, reported respectively by M. Hasner and by M. Brun. In these cases the eyes filled quickly with the bloody tears, the sanguineous character of which was demonstrated by microscopical examination. This affection is to be carefully distinguished from hemorrhages dependent upon orbital or conjunctival disease, such as polypoid conjunctival vegetations developed in the *culs-de-sac* of the conjunctiva. Genuine bloody tears are quite independent of any ocular or conjunctival disease, and their appearance is irregular. No apparent cause leads to their effusion. In some cases the escape of the tears is unattended by pain. In others, the patient experiences pain in the forehead, the eyebrow, and at the root of the nose, or a sensation of pruritus, formication, or heat in the eyelids. These morbid sensations persist only a few instants, and disappear with the appearance of the tears. The escape of the tears continues only a few minutes, and the quantity of sanguineous lachrymal secretions varies from a few drops to a wine-glassful. This phenomenon is usually intermittent, sometimes regular, but almost always transitory and attended by hemorrhages from various cutaneous or mucous surfaces. Sanguineous lachrymation appears, by preference, in anæmic individuals, in those inclined to hæmatophilia, and in hysterical women.—*Journal de Médicine et de Chirurgie Pratiques*, October, 1883.

Consumption as a Preventable Disease.

The *N. Y. Med. Jour.*, December 8, 1883, says: It can scarcely be said that the subject of the prevention of infectious diseases has not been accorded a prominent place in the discussions at medical gatherings, or in the periodical literature of medicine, for a number of years past. But, assuredly, this prominence is justified by the magnitude of the interests involved. It is not our present intention to raise any new questions bearing upon the matter, but simply to call attention to a very careful and satisfactory presentment that was lately made of it, at a meeting of the Medical Society of the County of Albany, by Dr. F. C. CURTIS. Dr. Curtis' association with the work of the State Board of Health has led him to make the subject more of a study than perhaps it would have been practicable for him to do in the capacity of a practitioner simply.

On the occasion in question, Dr. Curtis first alluded to some of the generalities of preventive medicine, and then proceeded to discuss the causes, and the consequent means of prevention, of small-pox, scarlet fever, diphtheria, pulmonary consumption, and typhoid fever. Much interest attaches to his remarks under each of these heads, but, as we have not space to allude to more than one of the affections mentioned with any approach to the degree of fullness warranted by the character of what was said, we must dismiss the others with the simple note that Dr. Curtis gave unreserved expression to his belief in the contagiousness of diphtheria, an attribute of the disease which some investigators are quite positive in denying.

It is of Dr. Curtis's remarks on the causes of consumption that we shall try to give a tolerably full summary, as the subject is one about which a good deal of uncertainty is felt in the profession at present. This unsettled state of opinion Dr. Curtis contrasted with the satisfaction with which Louis's conclusions were accepted some years ago. He thought it safe to say that the facts were not all in yet, and that until they were, it was just as well to maintain an attitude of doubt with regard to the diathesis theory, the inflammation theory, and the specific germ theory. Coinciding in a general way with Dr. Bowditch's opinion that most cases of consumption arose from local causes—"damp grounds, wet cellars, and sloughs and undrained premises, as well as want of sunlight and good food"—Dr. Curtis would add to these the inhalation of air contaminated with sewer-gas and decomposing organic matter. Even granting that there was a specific germ, it was considered certain that under the influence of these factors the disease flourished most readily, and a specific germ could not, therefore, be taken as its only cause. There were other environments, favoring lowered vitality, which operated in like manner. An interesting statement was quoted from the "Popular Science Monthly," to the effect that among animals in the wild state consumption was much more prevalent than among those in captivity, the writer attributing the fact to exposure and to the impossibility of the beasts' escaping in their lairs from the effects of violent storms. The danger to a delicate person, inheriting pulmonary weakness, of contracting the disease, was much enhanced, Dr. Curtis continued, by the presence of air contaminated from a sewer.

In looking to the proper condition of a house in which a consumptive was to spend the winter, he would look to the drains and the cleanliness of the cellar and the living rooms before he would consider dampness and want of sunlight, as suggested by Dr. Bowditch. In so far as these unhygienic surroundings admitted of remedy, consumption was preventable.

The Treatment of Chorea.

Dr. Henry D. Chapin recently read a paper before the New York Neurological Society, entitled "Points of Interest in Chorea." From the *Med. Record*, December 15, 1883, we take the following portion of it:

With reference to treatment, I have been guided by a routine, which, although rather unvarying, has generally been successful. It is rare in an out-patient service to see those severe and aggravated cases that seem to defy all kinds of therapeutics, and none of my cases have been of this character. They have been of a mild or moderately severe type, and have usually yielded to the general combination of arsenic and iron. In children of from eight to ten years I have started with five drops of Fowler's solution, combined in a prescription with about five grains of the citrate of iron and quinine. If within a week or so there have been no signs of improvement, I have slightly increased the dose of arsenic, but I have never been obliged to push it to toxic doses. In other cases, where there has been much anæmia, I have given ten drops of the tincture of the chloride of iron with the arsenic, largely diluted with water, after each meal. I have also directed the children to be removed from school, and freed from all mental restraint; also to have as generous a diet as possible, and plenty of out-door exercise.

The expectant plan of treatment, based upon perfect hygiene and the best diet, has sometimes been advocated for chorea, to the complete exclusion of medicinal treatment. In the "Proceedings of the Kings County Medical Society for December, 1878," Dr. Landon Carter Gray makes a comparison of the arsenical with the expectant plan of treatment. A number of cases were kept under observation from the beginning of treatment to the entire disappearance of all symptoms. The treatment was entirely arsenical, no directions being given as to hygiene or food. The results were then compared with a number of cases published by Drs. Gray and Tuckwell in support of the expectant plan, when he finds a balance of twelve days in favor of the arsenical treatment. While arsenic is undoubtedly the best for routine treatment, certain other measures may hasten the cure. Thus, if the child is vigorous enough, the cold plunge may be employed; also, cold affusions to the nape of the neck and along the spine, with frictions. Rythmical gymnastic exercise is sometimes beneficial. Dr. C. L. Dana, in a paper read at the last meeting of the American Neurological Association, claims that he has found anodal galvanization a valuable adjunct in the treatment of chorea. It was found that by applying it daily for a week or ten days, with arsenic, he materially shortened the duration of the disease. His method of application is as follows: "A large sponge electrode of flexible brass, four by two inches, is thoroughly moistened with salt water; the hair of the patient is also thoroughly wetted, and the electrode applied over the sides of the head, above the ear. In hemichorea it need only be applied over the side opposite to the one affected. The other electrode is placed in the hand of the affected side. The electrode upon the scalp is made positive, and a stabile current of three to six Stöhrer's, four to eight Daniell's cells, is used."

Case of Epilepsy, with Suppuration of Cervical Glands; Incision; Large Dose of Bromide of Potassium.

Dr. F. W. Nicholson reports this case in the *Lancet*, November 24, 1883: The following case lately came under my observation, and thinking it of some interest, I forward you the particulars: B. C——, aged eleven years, has for the last eight years suffered from epilepsy. On July 28th, when first seen by me, he was considerably emaciated, though taking food well; has never been able to read or write, or even talk more than a few disjointed words; is violent at times, and a source of considerable danger to his brothers and sisters; takes pleasure in frivolous toys—in fact is an idiot. His fits were very frequent, and at times (as his mother expressed it) he was barely out of one fit before he was in another. At the time of my first visit he was taking ninety grains of bromide of potassium per diem without any appreciable effect either on the frequency or severity of his fits; moreover, he had suppuration of the cervical glands of the left side. On my second visit I incised the abscess in his neck, and shortly after my departure he obtained possession of the medicine bottle, containing two ounces and a half of the bromide, and drank the whole. He appeared to suffer no inconvenience from this dose, which did not even produce sleep, but his fits entirely ceased, and for ten weeks after (this is the last I have heard of him), have been in total abeyance, though there is no improvement in his general condition. The abscess in his neck was acute, and healed readily. The question that arises is, whether the cessation of the epileptiform seizures be due to the action of the bromide or the opening of the abscess, or whether these were simply coincidences, and the fits would have stopped of their own accord in the ordinary course of events.

Ankylostomum in Germany.

The *Brit. Med. Jour.*, Sept. 29, 1883, says: Dr. Menche, of Bonn, describes, in a recent number of the *Zeitschrift für Klinische Medizin*, a case of anæmia from the presence of ankylostomum in the intestine, the first that has been recorded as having occured in Germany. Hitherto it had been confined to Italy, Egypt, and Brazil, until the epidemic among the workmen in the St. Gothard tunnel showed that the parasite had been imported into Swiss territory. This epidemic is fully described in Dr. Bugnion's contribution to the *Journal*, in March, 1881. Dr. Menche's patient was a brickmaker, who had never traveled beyond the neighborhood of Bonn, where he carried on his business. He became very anæmic, and presented all the other symptoms of ankylostomum disease, as described by Dr. Bugnion. After the administration of ethereal extract of male fern, masses of the parasite were voided from the patient's bowels, and the anæmia soon disappeared. Dr. Menche observes that, just as tropical chlorosis, and the St. Gothard tunnel epidemic of anæmia, have been found to be due to the presence of masses of the blood-sucking ankylostomum in the duodenum, so, as in his own patient, the anæmia common among brickmakers and tile-burners may be, generally at least, due to the same parasite.

An Acid Solution of the Hypophosphites.

In the *Med. Times*, November 3, 1883, Dr. GEORGE S. GERHARD says: Mr. Hayes, of the St. George Pharmacy, Philadelphia, has very successfully prepared, at my suggestion, a solution of the hypophosphites, without syrup, by dissolving the salts in water acidulated with hyposulphurous acid. The addition of a definite amount of this acid prevents the precipitation of at least two of the salts (iron and manganese), which in the syrups is accomplished by the protective power of the sugar.

The objection to the syrups is their excessive sweetness, and their liability to cause indigestion. The present solution, the formula of which I give below, is clear, slightly fluorescent, and pleasantly acid. It is a valuable tonic and stimulant, and is borne by the most sensitive stomach.

Calcii hypophosphit.,	
Potassi "	
Sodii "	āā gr. j.
Quininæ "	
Manganesii "	āā gr. $\frac{1}{4}$.
Ferri "	gr. $\frac{1}{2}$.
Strychninæ "	gr. $\frac{1}{120}$.
Glycerinæ,	♏iij.
Liq. acidi hypophos.,	♏ij.
Aquam	ad f.℥j.

Typhoid Fever with Hemorrhage.

Dr. L. L. McCABE reports this case in the *St. Louis Courier of Medicine*, December, 1883:

V. L——, æt. 30, German, single, entered hospital August 9th, with a well marked attack of typhoid fever. The fever pursued its regular course till the 14th, when the morning temperature was as usual, 103.5°; at 5 p. m., it was 100¾°. During the night, profuse hemorrhage from the bowels. Next morning the thermometer registered 101°. The temperature gradually increased till the 18th, when during the morning it was again up to 103.5°, and remained so till the 20th, when it fell to 101.5°, followed by another profuse hemorrhage from the bowels. By the 23d, it was up again to 103.5°; remained so for two or three days, and then gradually began falling, till by the 31st it was normal. Everything progressed nicely until September 12th, when, without any assignable cause, the patient had a relapse, the thermometer showing a morning temperature of 103.5°; September 13th, 103¾°; September 15th, 104¼°. After this there was a gradual decline, and by the 24th the case was again convalescent.

Patient left hospital October 12th, well.

Arsenic in Idiopathic Anæmia.

MR. PADLEY concludes a lengthy article on this subject in the *Lancet*, November 17, 1883, with the following forcible language:

The chief practical conclusions to be drawn from what has been here advanced are:—That in arsenic we have a medicine exercising what may almost be termed a specific action in "idiopathic anæmia;" that in a clearly recognized case it is useless, and worse than useless, pouring in iron, and, unless as auxiliaries, other tonics; that arsenic appears to act best in its simple and uncombined form, and that its action is rather interfered with than otherwise by combination with iron; that the failure of iron—so potent in other forms of anæmia—serves as a kind of therapeutic diagnostic between these and idiopathic anæmia; and that the prognosis and directions for treatment of our chief authorities on medicine and therapeutics are, I say it with all deference, misleading and unduly discouraging, inasmuch as they are either altogether silent upon, or enumerate cursorily with other medicines, the only agent which appears to have exercised a real and essential influence upon the disease, and which has undoubtedly been the means of rescuing a large proportion of suffers from its otherwise deadly power.

Arsenic a Prophylactic in Consumption.

The *Chemist and Druggist*, November 15, 1883, tells us that Professor BUCHNER states, in the *Ærtzliches Intelligenz-Blatt*, that the results obtained by him, by a suitable arsenic treatment, in a number of consumptive cases, have led him to conclude that timely and properly regulated doses of arsenic are of intrinsic value in contending with the disease.

It appears that arsenic acts as a prophylactic, and hence it should be employed as soon as symptoms of the disease begin to show themselves. The author says that, although in the very early stages the beneficial effects of arsenic are not directly noticeable, from the peculiar latent state of the malady, they are very evident in the case of a patient who has reached the middle stage, the fever and nocturnal perspiration generally completely disappearing with a twelve days' treatment; and further, that when an arsenic treatment is begun when the disease may be said to be ripe, although it is probable that it is too late for a complete cure, great relief is afforded.

The arsenic is taken in the form of an aqueous solution of a strength of 1 in 2,000, of which from 5 to 10 c.c. are given thrice daily with the meals.

Severe Hiccough.

The *Brit. Med. Jour.*, November 17, 1883, says: Dr. RUHDORFER in the *Allgemeine Wiener Medizin. Zeitung*, 1883, No. 38, reports a severe case of the above, lasting for three months, and which morphia, given hypodermically, could only check for a few hours or days. It resisted all the usual remedies, such as quinine alone and with extract of belladonna, tincture of castoreum, or tincture of valerian, in water or with aromatics, mustard poultices over the stomach, dry cuppings down the spinal column, chloroform, ether, zinc, bismuth, numerous emetics, and purgatives. The patient dragged on for three months under various remedies, morphia being administered whenever a single attack lasted beyond eight hours. At last the attack became overpowering, and the hiccough was so loud that the patient could be heard outside the house, through two doors. She sat up in bed, supported by her parents; there were dyspnœa and cyanosis, the head was jerked in all directions, the pulse was small and frequent, the neck was distended. Remembering a case in the *Revue Médico-Chirurgicale*, Dr. Ruhdorfer injected a solution of pilocarpine hydrochlorate, 3 centigrammes in a gramme of water. The hiccough was at once cured, as if my magic, and has never returned since.

Purpura Hæmorrhagica.

After reporting a case in the *Pittsburgh Med. Jour.*, Dec., 1883, Dr. THOMAS J. GALLAGHER says:

This case shows that instances of a very severe attack of purpura hæmorrhagica may sometimes get well on the use of ergot and acids, but we knew that recovery in such attacks is extremely rare. We do not know of a similar instance of recovery in our practice, which extends over several decades. That ergot and aromatic sulphuric acid did the work by bracing up and contracting the capillary vessels, seems to be clear to us; that the disease did not depend upon an alteration in the quality of the blood, seems to be also proved by the microscopic examination; but that a sudden attenuation of the walls of the vessels, permitting an escape of blood through them, seems undoubtedly to have been the cause of the hæmorrhagic discharge. This case teaches the important lesson, not to give up a case of the kind too early, but to keep him at least under your care and watchful eye, and give him such remedies as may be deemed appropriate as long as there is any hope of recovery.

Galvanization of the Brain in Chorea.

Dr. CHARLES L. DANA contributes an article on this subject to the *Med. News*, November 17, 1883, in which he claims for anodal galvanization that it is a most valuable adjunct in the treatment of chorea; that given daily for a week or ten days with arsenic, and probably without, it will materially shorten the duration of the disease in most cases of chorea in children.

The method of application is as follows: A large sponge-electrode of flexible brass, 4 by 2 inches, is thoroughly moistened with salt water. The hair of the patient is also thoroughly wetted, and the electrode applied over the side of the head, above the ear. In hemi-chorea it need only be applied over the side opposite to the one affected. The other electrode is placed in hand of the affected side. The electrode upon the scalp is made positive, and a stabile current of three to six Stöhrer's, four to eight Daniell's cells, is passed for from three to six minutes.

Maggots in the Ear.

From the *Canada Med. Record*, November, 1883, we learn that Dr. OSLER exhibited (before the Medico-Chirurgical Society of Montreal), for Drs. McLean and Duncan, of Fergus Falls, Minn., five larvæ of *Muscida lucilia* which were removed, with sixteen others (all alive), from the ear of a man aged 24. The patient consulted the doctors on August 14th, with intolerable ear-ache, which had begun on the 12th. He had had scarlet fever and measles when young, and there possibly had been otorrhœa, but he had not noticed any special discharge. On examining the left ear the meatus was found alive with maggots, which had to be picked out with the ear forceps, as syringing had little or no effect. There was bleeding from the wall of the meatus, the drum was absent, and there evidently had been old middle-ear disease.

Dr. Osler remarked that many such cases were on record, but the large number of larvæ in one was remarkable. They are invariably in connection with suppurative disease of the ear.

Corrosive Sublimate in Diphtheria.

In the *Jour. de Med. de Paris*, October 27, 1883, Dr. Kaulich says that he uses this substance in diphtheria, but he does not say with how much success. As a topical application he uses the following: Corrosive sublimate 1 part, water 1,000 parts. In children upon whom tracheotomy has been performed, the trachea is washed out with the same solution, while inhalations are given of corrosive sublimate gr. $\frac{1}{20}$, water f.℥xxx. He prescribes for children, gr. $\frac{1}{6}$–$\frac{1}{3}$ of sublimate in gum water, slightly alcoholized. He also uses as a spray for inhalation concentrated lactic acid, grs. iss–ij, distilled water f.ʒj. This is used every three or four hours. For the swelling of the ganglia of the neck he uses the following as a liniment: Spirits of turpentine and chloroform āā f.℥ss, oil f.℥iij.

Avena Sativa for Dipsomania.

The *Weekly Med. Review*, November 17, 1883, tells us that in a severe case of dipsomania, Dr. Koch, of Rochester, N. Y., used the concentrated tincture of avena sativa with remarkable success (*Med. Chirurg. Correspondenz-Blatt*, No. 9), An artisan, aged forty, for many years addicted to drinking, made desperate attempts to break the habit. He would allow himself to be locked up, but invariably after two or three days climbed out of a second-story window at the peril of his life, to satisfy the morbid craving for intoxicating liquors. Five drops of the tr. avena three times daily seemed to compensate the morbid desire entirely, and for five months he attended to his work. When he ceased taking the tincture, a spree lasting an entire week resulted, and on retaking the tincture he was sober for more than a year.

Lingual Hemiatrophy in Tabes.

The *Lancet*, November 10, 1883, says: In a recent issue of the *Progrès Médical* (October 31st), M. G. Ballet directs attention to a condition which he asserts to be of sufficient frequency in tabes dorsalis to be of use in determining a doubtful diagnosis. It consists in a unilateral wasting of the togue, one-half of which presents the characteristic furrows and ridges, and is, moreover, the seat of tremor due to fibrillar contraction. There is generally a slight deviation on protrusion to the opposite side. In most of the cases observed by him the lingual hemiatrophy was associated either with ocular paralysis or with atrophy of certain muscles of the limbs. Its importance is the greater owing to its frequent occurrence in the early stages of the disease. As he remarks, the condition has not been overlooked by all writers, since Erb, Ross, and Grasset mention it.

Sudden Death in Hysteria.

The *N. Y. Med. Jour.*, December 8, 1883, says: An instance of this rare occurrence having been reported by M. Mollière at a meeting of the Société des Sciences Médicales, of Lyons ("Lyon Médical," November 11, 1883), M. LAURE remarked that he had met with a similar one in which it was very difficult to determine the actual cause of death. The hysterical attacks arose from the pressure of a medullary tumor. He was also cognizant of a case closely analogous to M. Mollière's. It was that of a young female under treatment for hysteria in the Croix Rousse Hospital, who died from syncope on the third day after her admission. The results of the autopsy were entirely negative. A case precisely like this had previously occurred in one of the great Parisian hospitals. M. Mollière said that he was not aware of any recent incidents of the kind.

A New Treatment for Neuralgia.

The *Lancet*, November 24, 1883, says: The latest agent introduced for the relief of neuralgia is a 1 per cent. solution of hyperosmic acid, administered by subcutaneous injection. It has been employed in Billroth's clinic in a few cases. One of the patients had been a martyr to sciatica for years, and had tried innumerable remedies, including the application of electricity no fewer than 200 times, whilst for a whole year he had adopted vegetarianism. Billroth injected the above remedy between the tuber ischii and trochanter, and within a day or two the pain was greatly relieved, and eventually quite disappeared. It would be rash to conclude too much from these results, in the face of the intractability of neuralgiæ to medication, but if it really prove to be as efficacious as considered, hyperosmic acid will be a therapeutic agent of no mean value.

Urticaria.

In the Dublin *Jour. Med. Sci.*, August, 1883: Dr. J. MAGEE FINNEY reports a bad case of urticaria, in which enormous wheals or hives appeared all over the body of a man, aged twenty-three, who was addicted to the intemperate use of porter, though he had been so addicted for three years before the hives appeared. The treatment consisted of alkaline and size baths, and aperients combined with nerve tonics. Immediate good results followed, the large confluent wheals on the trunk being the last to disappear; and he was discharged well in three days, no return of the eruption having taken place.

Cerebro-Spinal Fever (Spotted Fever—Cerebro-Spinal Meningitis).

In the New York *Med. Record*, November 24, 1883: Dr. J. LEWIS SMITH discusses this disease, which has been endemic in New York since its introduction in 1871. Its cause has not been definitely ascertained as yet; but it is observed to occur almost entirely among those influenced by bad hygienic surroundings, over-work and worry markedly predisposing to it. If it is contagious at all, he thinks it is very slightly so. While it occurs in the lower animals, there is no evidence that it is transmitted from them to man.

VI. OBSTETRICS, DISEASES OF WOMEN AND CHILDREN.

An Unusual Case of Pregnancy.

In the *Lancet*, December 1, 1883, Dr. H. M. **Fenwick** says: I have been induced to publish the following notes, not only because the case is unique in my own experience, but because I can find no mention of a similar one in any of the ordinary obstetric works:

Mrs. H——, aged twenty-four, secundipara, was seized with labor pains on July 20th last, when living at C——. Although she had not expected to be confined until the middle of August, she felt as if she were going to be "put to bed" at once. Everything was got ready for the lying-in; all her female friends were summoned, as is usual in this district; and then the medical man who had been engaged for the case was sent for. Meanwhile "the waters" had broken, the woman being immediately lifted into bed. On his arrival the doctor made the usual examination, gave his patient "a pill," and, after promising to effect delivery next morning, took his departure. The pains gradually left the woman, and after a day or two she got up and went about as usual, although much inconvenienced by a considerable watery discharge from the vagina. After an interval of a few days this was replaced by a slimy, bad-smelling discharge, which was still continuing to come away when Mrs. H—— came to live in this village on August 6th. I was sent for next morning. After hearing her history I made a vaginal examination. I found the os uteri very high, and was unable to make much depression by downward pressure with the other hand on the abdominal wall over the fundus. I found that the os was very soft and œdematous, and dilated to about the size of a shilling. The finger after introduction into the os was found to be covered with a thick, stringy, tenacious, rather foul-smelling gelatinous substance. I was unable to get "ballottement;" on auscultation the fœtal heart could not be heard, and the placental bruit was very indistinct. The abdomen was more than usually distended, and on palpation a soft "boggy" feeling was experienced over almost its whole extent. The uterus and its contents were very difficult to define. At this time the woman was complaining of recurring rigors and "drenching sweats," pain in the back, profuse diarrhœa, persistent vomiting, severe frontal headache, and total inappetency. Her skin was markedly icteric in hue, and her lower eyelids were congested and swollen. The temperature varied from 100° to 101° F. at night to slightly above normal in the morning. The pulse and respiration were also considerably accelerated. I concluded the fœtus was dead.

On August 14th I had a consultation on the case with Dr. Proudfoot, of Newbiggin-by-Sea. He agreed with me that in all probability the child was dead. We then considered the expediency of inducing the expulsion of the uterine contents, but determined not to do so unless the symptoms became more urgent. The next day, as the fetor of the vaginal discharge was still troubling my patient, I plugged the vagina with a tampon of wool soaked in a weak glycerole of carbolic acid. From this time she improved wonderfully. The vomiting and diarrhœa which had resisted all treatment stopped; the rigors ceased, appetite was regained, and nothing was complained of until the evening of September 3d, when I was sent for. On arrival I found the woman in labor, the "pains" strong and regular. On examination I found the head coming through the brim in the first position. In the bed was a large quantity of ropy, thick, mucilaginous matter. After waiting two hours, as no progress was being made, although the os was fully dilated, and as the woman was becoming delirious, I put on Simpson's long forceps, and delivered her of a full grown, living, female child. The birth of the child was followed by the discharge of about a quart of the jelly-like matter before alluded to; and, together with and after the removal of the placenta, which was adherent, I brought away about another quart. The mother recovered rapidly, and both she and her child have done well since. I may state that at no time was there any albuminuria or œdema of the ankles or legs. Microscopically, I could make out little in the jelly; a few delicate fibres and some small irregular crystalline bodies. On exposure to the air, the jelly rapidly liquefied, and in ten hours was like water. I give the case simply as it occurred, and make no attempt to account for the presence of the large quantity of mucilaginous matter contained in the uterus.

The diagnosis that the fœtus was dead was wrong; but without the knowledge of the record of a similar case, it can be easily understood that the intervention of a thick layer of jelly-like matter between the fœtus and the uterus would prevent transmission of the fœtal heart-sound through the uterine and abdominal walls; and if there be added to the fact of the observance of several of the usual symptoms of fœtal death, I think it will be acknowledged that I was fully justified in the diagnosis at which I arrived.

A Remarkable Case in Obstetric Practice.

Dr. T. A. Rodger thus writes in the *Canada Med. Record*, November, 1883:

The patient, aged 32 years, was pregnant for the fourth time. I was present at the birth of all the former children, and found nothing unusual. The history of the case, which is brief, is as follows: On the morning of the tenth of October I was requested to visit a Mrs. L., who it was said had been ill all night with great difficulty of breathing. I found the patient in bed, half sitting, half reclining on her side, and propped up with pillows. Her countenance was somewhat anxious, face slightly livid, eyes staring, breathing very hurried and short, and complaining of great tightness about the chest and abdomen, with a sense of suffocation.

This being my first visit to this patient at this time, and not thinking that she was pregnant, I at once examined her chest, found heart and lungs normal, but was struck with the size of the abdomen. Her feet and legs were somewhat œdematous, but no great amount of swelling at the vulva. There had been slight pains at long intervals all night, but the patient said "not like labor pains," though she thought that she ought to have been confined some time during the month of September, having, as far as she can recollect, menstruated for the last time about the beginning of the year.

The size of the abdomen being so much out of proportion to anything I had ever witnessed before, I began questioning as to her condition for some time back.

She told me that nothing out of the way was noticeable in the size of her abdomen until between the sixth and seventh month; that never at any time could she say that she felt any distinct movement of the child, such as experienced with her other children; that she had suffered considerable at different times from irritability of the stomach, in fact had often great difficulty in retaining food. A vaginal examination revealed the os to be high up, dilated about an inch, edges tense but thin, membranes entire, but no presentation could now be felt. Examination of the abdomen gave dullness on percussion throughout; no movement nor outline of the fœtus could be made out, and by auscultation could not get either heart sounds or placenta bruit.

Through the assistance of the friends present, I changed the position of the patient to one which I thought more favorable, or which might assist me in detecting a presentation; but all without any effect whatever.

The distress of the patient being so great, I felt that some measures would require to be adopted at once for relief, so I gently dilated the os until I succeeded in passing the greater portion of my four fingers within the uterus, taking care at this point not to tear the membranes: still no fœtus could be felt. Satisfying myself as to the toughness of the membrane, I passed my whole hand between the latter and the walls of the uterus, and endeavored to rupture the membranes with my fingers, but failed. Without withdrawing my hand, I passed, with the left, a knitting-needle, when the rush of water was tremendous.

Continuing my search for the child, my arm acting as a plug in the vagina, I could find nothing in the uterus proper, having passed my hand all around the walls; but, at the upper end or fundus, a circular opening about the size of a silver dollar, edges somewhat thick, and unyielding to ordinary force by the fingers.

Passing my forefinger through the new opening, touched the mouth, nose and eyes of the child; then gradually succeeded in getting in a second finger, when no forehead could be felt, in fact, no head.

With the gradual escape of some portion of the amniotic fluid, I found that I could use more force with my fingers in dilating, due to this second uterus, if I may so call it, being brought near to my hand. Owing to the alarming condition of the patient at this point, and fearing delay might not serve any good purpose, especially if the escape of the amniotic fluid was permitted, there being a possibility of collapse, I determined at once upon version, and set to work to force my hand into the interior. After considerable resistance had been overcome, both feet of the fœtus were grasped, completing the delivery of a still-born acephalic male child, weighing about six pounds. Fluid ext. ergot was given to ensure uterine contraction, and after delay of a short time the placenta came away by gentle traction with the hand, followed by slight hæmorrhage.

The woman was not in a condition to warrant further interference, otherwise I should have liked to pass my hand and further investigated the interior of the uterus, but feared that possibly such procedure might be attended with bad result.

This is now the 16th day since the patient was confined, and I may state that she is doing well, no bad symptoms having appeared, so far, in the case.

The Use and Abuse of Pessaries.

Dr. John Mackern thus writes to the *Lancet*, December 1, 1883: In *The Lancet* for November 10th an annotation appears under the above title, in which the writer seems to me to have drawn some very unfair comparisons, by which he throws a stigma on the character, not to say honesty, of a large and increasing section of the medical profession. In the article in question a comparison is drawn between the oculist who orders spectacles for a patient in need of them, and the physician who adapts a pessary in the vagina for the rectification of a uterine displacement. Then by a very pointed question it is implied that the latter needs as little subsequent management or attention as the former, and that therefore the physician who gives more attention to the pessary case is as deserving of censure as the oculist would be had he visited his patient for several months to see whether the spectacles seemed to suit him or not. It would seem to be almost needless to waste words on such a comparison. Even the writer of your annotation does not wish to carry it to its issue, for in a former part of his article his words are: "It is also usually advisable that the doctor should satisfy himself in a week or so that the pessary is doing good, and doing no harm; and then, having once started the treatment, the patient should be left to test its efficacy."

Exception may also be taken to this dogmatic statement on many grounds, among which the following at once suggest themselves:

First, a pessary in the vagina is liable to become displaced from various causes; the sooner such displacement is discovered and rectified, the better for the patient. Secondly, it is possible for the pessary to cause deep and dangerous ulceration of the vaginal walls, without causing more inconvenience than some women are known to put up with. Thirdly, it is frequently necessary to change the pessary for one of more suitable size or shape, as the displaced uterus gradually approaches more and more to its normal position.

These few reasons seem sufficient to prove that it is advisable to keep the patient under supervision while wearing a pessary, especially during the early part of the time; but I fully agree with the writer of the article when he says, "To see the patient every day, every other day, twice a week, for weeks, months, or years, is not an instance of the proper use of pessaries." A grave fallacy is at once introduced if it be for a moment granted that the pessary can be in any way compared to a wooden leg, a truss, or a pair of spectacles (all of which comparisons are made in your annotation). These surgical appliances are intended to supply a deficiency, or remedy a defect, in the normal structure of the body; whereas the pessary should be regarded, in most cases, as a temporary prop to a displaced organ, till natural forces and supports, aided or not by medicinal and hygienic treatment, are enabled to reassert their influence. Rather, if we must speak surgically, let us compare the pessary to the splints that the surgeon uses to adjust and maintain in position a broken bone, and then let us ask ourselves the question, What should we say of such a surgeon if, having applied his splints, he left his patient to test their efficacy? Would he not incur just censure if the splints caused ulceration from pressure, or if the fragments of the bone became displaced, and he were not ready to detect as well as to remedy the mishap! Truth seldom lies in extremes. The advice to avoid pessaries altogether seems as far from the truth as the practice of some, which would lead us to imagine that the female organization is not complete unless the vagina is distended by a pessary. However, as Niemeyer's translators say, "In emptying the bath one need not spill the baby," for between such extremes the pessary enjoys a vast field of usefulness when applied with skill and watched with care.

A Pomade Pot in the Vagina for Four Years—Extraction.

The *Jour. Am. Med. Ass.*, December, 1883, says: As a companion article to the one reported in this journal (No. 18, November 10) on the extraction of a pomade pot from the rectum, we give the following as reported by Dr. Aubeau in the *Gazette des Hopitaux*. We see by these notes that the excessive fondness of our French neighbors for pomades does not confine itself to the use of the preparation simply, but extends also to the vessels which contain it.

The case in question is that of a young girl twenty years of age, small, ill-looking, and apparently at the last stage of anæmia and emaciation, affected with extreme nervousness, occasioned not only by her feeble and suffering condition, but also by the general reprobation of which she was the object. Accustomed from infancy to vicious practices, when fifteen and one-half years of age she introduced a pomade pot into the vagina. Once beyond the vulva, it became impossible to remove it. She kept this secret until vaginal catarrh, suppression of the menses, obstinate constipation, rectal and vesical tenesmus, obliged her to confess. Two years and a half later a physician attempted its removal, succeeding only in breaking off fragments from the edges of the pot. Other attempts were made during anæthesia, resulting in a slight hemorrhage, severe pains, and the discharge of urine from the vulva.

She declared to Dr. Aubeau that the pot was small, cylindro-conical in shape, and introduced by its smaller end. The appearances as observed by him were such as might be expected from the previous history, of extreme irritation to the external parts. The hymen was seen to be partially preserved. By vaginal touch a foreign body was felt, a phalanx high in the vagina—hard, solid, a little roughened, and giving the sensation of a phosphatic vesical calculus. On attempting to remove it, it was felt to have swollen behind the pubis and ischiæ, to have become spheroidal, and to be wedged into the cavity, pushing the rectum backwards and the bladder forwards. In effect, the vagina was filled with an immovable calcareous mass, in size and shape like that of a Duchess pear. At no point could the smooth and polished surface of the glass be felt. Its consistency was found to be friable like plaster, and accordingly, by the means of dressing and artery forceps, a spatula, and a cautery in the shape of a spoon, Drs. Aubeau and Lefebure, in the country village where she lived, and where more suitable instruments were not obtainable, proceeded to remove it. In about a half hour they had scraped their way down to the pot itself. Then, by applying a crown of artery forceps to the edges so as to protect the mucous membrane, and separating and protecting the lips of the vulva, by carefully drawing upon it they succeeded in the removal of a pomade pot four centimeters in diameter and six centimeters in length. The operation occupied an hour and a quarter. When the vagina was completely emptied, its over-distended walls did not immediately contract, and enabled them to find the uterus, although pressed very high up, to be healthy, and a small perforation through the vesico-vaginal septum on a level with the neck of the bladder. From this time everything progressed favorably. A month later the vesico-vaginal fistula was treated with success. The menses returned, and four months later the patient married. Now—four years since the removal—the patient is in a very satisfactory local and general condition, inclining to be not only stout, but obese.

The Prevention of Mammary Abscesses.

The *N. Y. Med. Jour.*, November 24, 1883, tells us that Dr. Richard Wood expresses the " firm belief (Midland Medical Miscellany and Provincial Medical Journal, November 1, 1883), based upon an experience of ten or twelve years, that no breast during lactation would ever suppurate if proper preventive treatment could be adopted early enough." His plan is, in the first place, to watch closely for premonitory signs of trouble in the mammæ. These are: first, pain and soreness about one of the nipples. This warning must never be disregarded. A glass shield, with a tube and an India-rubber nipple for the infant, should be put in use at once, and local applications of glycerite of tannin should be made frequently. If the mother continues to suffer in spite of these measures, the child must not be allowed to nurse from the affected breast. These means will probably be sufficient, if there is no localized induration, redness, or tenderness in the substance of the breast itself. If, however, such a condition exists, no time should be lost before active treatment is begun. If shivering has occurred, it may already be too late. To insure success, the case must be taken in hand the same day the pain and hardness are first noticed. A piece of lint, doubled four times, and ample enough to cover the tender part of the breast easily, is to be soaked in one ounce of belladonna liniment. This is to be laid on and covered with gutta-percha tissue, and the whole " bandaged up carefully with three bandages, each six yards in length." A five-grain pill of calomel and the following mixture are to be prescribed internally:

℞.	Tincturæ belladonnæ	f. ʒ ij,
	Magnesii sulphatis.	℥ iss,
	Spiritus chloroformi	ʒ ij,
	Aquam destillatam	ad ℥ vj.

M. Sig. Two tablespoonfuls every three hours.

In very delicate women the effect of the medicine must be carefully watched. If the bowels act more than four or five times, it must be stopped, but resumed again on the following day. The belladonna, however, should not be stopped unless the head, tongue, throat, or pulse makes it necessary. The second day the dressing should be resumed and re-applied as before, after the lint has been soaked in more belladonna liniment. The breast must be well supported by carrying the bandages around the neck and shoulder every time. The hardness and inflammation should yield in about three days. After that period a few more dressings on alternate days may be required. Meat and all stimulating beverages should be interdicted from the outset. For the first day, the less the patient eats the better. "At the same time the nurse should have instructions not to be afraid to give brandy, if there should be signs of fainting from the violent action of the aperient."

This treatment [which Dr. Wood appears, from the sentence just quoted, tc recognize as heroic,] has proved successful in his hands even in cases in which this most painful and distressing affection had been allowed to go without proper attention for two or three days. It would be well for physicians to caution women whom they attend in confinement, or their attendants, that the first indication of trouble in a nipple or breast is a warning that should be promptly attended to. To regard it, as so many women do, as one of the little things which are too trivial to need the attention of the physician, is to invite an experience which, of those ills that do not actually threaten life, is about as serious as a woman can undergo.

Relations Between Pleuro-Pulmonary and Uterine Affections.

The *Obstetric Gazette*, June, 1883, says: Pleuritis after confinement is not an unusual occurrence, but it often presents rare forms. It may be the result of puerperal infection, when it is generally purulent, being also consecutive to peritoneal inflammation, propagated through the diaphragm. Again it results from taking cold, from exposure to the weather, especially when sitting in bed nursing the infant. A woman in our service recently confined, was taken with chills, fever and abdominal pain upon the third day. Examination revealed nothing, although it was certain there was a peri-uterine inflammation developing, which showed itself more plainly in a few days, although disappearing rapidly.

But in the meantime there were evidences of pulmonary congestion, followed by a slight pleural effusion. Another patient has her menses checked by taking cold; she has chills, vomiting, pain and delirium. Peri-uterine inflammation with light pleuritis was diagnosed, which entirely disappeared in fifteen days. It might be asked if the abrupt suppression of the menses was not caused by the pleuritis. But this question cannot be raised in the following case. A young girl entered the service with a purpura and urticaria, in whom the menses had been absent two months; on the approach of the third month she was attacked with a transitory diaphragmatic pleuritis lasting but four days.

In this case the uterine congestion appeared to have caused the pleural complication. Another young girl subject to menstrual irregularities to within a few months, when she became regular, was taken suddenly with abdominal pain and symptoms of uterine congestion, together with a pleuro-pulmonary congestion, which for a long time remained the predominating phenomenon. In grave forms of puerperal inflammation, the infection is carried through the lumbar lymphatics to those of the inferior aspect of the diaphragm. But when the uterine affection is still not marked and there is no suppuration, and when the pulmonary complication has advanced rapidly, the cause is probably to be found in a reflex action. M. Potain observed a young girl who succumbed in three days to a diaphragmatic pleuritis and pulmonary gangrene, the result of suppressed menses. Generally a dry pleurisy of little gravity arises, even in the puerperal condition. In the majority of cases the congestion is participated in by the lungs, and in one instance M. Potain aspirated, thinking he had pleuritis. When the peritoneal trouble is cured, the pleuro-pulmonary accidents ameliorate. It is well then to examine these when a peri-uterine infflammation exists, whether of puerperal origin or not, as removing the cause goes far towards healing the complication. —*Hospital Necker*, *Prof. Potain.*

A New Operation for the Reduction of Chronic Inversion of the Uterus.

Dissatisfied with all existing methods in certain cases, Dr. B. **Bernard Browne** recommends the following in the *N. Y. Med. Jour.*, November 24, 1883:

The problem to be solved is, how to get the fundus back through the rigid and constricted cervix. On November 2d, the bowels and bladder having been evacuated, the patient was placed under ether, the inverted fundus was drawn outside the vulva with a strong vulsella forceps, the openings of both Fallopian tubes were brought plainly into view, and an incision one inch and a half in length was made through the posterior portion of the uterus (avoiding the Fallopian tubes and larger vessels at the sides of the uterus). Through this incision Sims's large dilator was passed up into the cervix and expanded to the fullest extent; the rigid tissues of the cervix were felt to relax; then, upon withdrawing this dilator, Nos. 2 and 3 of Hanks's hard-rubber dilators (three-fourths and one inch in diameter) were passed through the cervix. The finger was also passed, to feel that there were no adhesions. The incision in the uterus was then sewed up with carbolized silk-worm gut, and, with slight manipulation, the fundus was easily replaced through the now passable constriction.

The whole operation was performed in less than thirty minutes. There was considerable hæmorrhage from the uterine cavity when the uterus was first replaced. On the next day the temperature was 102° Fahr., but gradually returned to the normal condition, which it reached on the fourth day. During the first week she complained of severe pain in the uterus, but this was controlled by full doses of opium.

She was placed on the table and examined on the 14th (twelve days after the operation). The cervix was somewhat patulous, but, with this exception, the parts were all in a normal condition.

CONCLUSIONS.

1. This operation is not proposed to supersede ordinary taxis in the reduction of chronic inversion of the uterus.
2. It is not more dangerous, but much more certain, than prolonged or rapid taxis.
3. We avoid the danger of bruising the tissues and rupturing the vagina.
4. As an operation for inversion, it is less dangerous than laparotomy.
5. Unless there be adhesions (which rarely exist), we can always feel certain of reducing the inversion at one operation.

Vulcanized Pessaries from Plaster of Paris Casts.

Dr. C. A. Lee Reed thus describes his process in the *N. Y. Med. Jour.*, Dec. 22, 1883.

A mixture of plaster of Paris in water was made of such consistence that it could be readily drawn into the barrel of a metallic syringe, the distal end of which had been cut off for the purpose. This instrument, loaded with the plaster, was passed into the vagina by the aid of a Sims's speculum and the plaster discharged, the syringe being gradually withdrawn as the plaster was projected into the vagina. The patient was kept in the recumbent posture until the plaster had had time to "set." In subsequent cases I avoided this detention in bed by packing in the bottom of the syringe some dry absorbent cotton, which was discharged with the plaster, and which formed an effectual plug, serving the threefold purpose of preventing the escape of the plaster from the vagina, forming a cushioned lower extremity to the plug, and preventing the formation of disagreeable sharp corners. After twenty-four hours the plaster was removed, the cotton torn away, and a hole drilled lengthwise to permit of cervical drainage.

The object in applying the plaster in this form was to have a mass that, when thrown into the vagina, would yield to the natural contractility of the walls of the canal and thus become adjusted strictly *in situ naturale.* In this I succeeded, so that when the pessaries were returned, after being perforated as indicated above, they were invariably worn without the slighest difficulty.

They, however, became fœtid, and in some cases were too heavy. To overcome the former objection I coated them with shellac, but that failed to prevent absorption. Then, to overcome both the absorption and the weight, I concluded to use the plaster pessary as a mere cast, which I took to a dentist and had reproduced in rubber, just as he would vulcanize a plate for a set of teeth. The result was a pessary with which I was satisfied, and the development of a line of practice which I have since found of great value.

A few final observations may be of interest tô those who may have a fancy to try this line of practice:

1. In cases of displacement the uterus should, of course, be replaced before the plaster is applied.

2. This treatment is utterly impracticable in those cases of version and flexion in which there is not sufficient cervix within the vagina to afford leverage.

3. As a rule, the attempt to take a plaster cast of the vagina should not be made in cases of cellulitis, although I have seen mild cases of this sort decidedly benefited by the procedure. The plaster is a powerful astringent and an efficient alterant.

4. Ordinary cases of vaginitis offer no obstacle to the use of the plaster. I sometimes treat cases of vaginitis with a vaginal plug of plaster of Paris.

5. The plaster should remain in the vagina until the secretions have overcome its astringency, when it can be removed without violence to the epithelium.

6. Care must be taken in applying the plaster that no rough corners or horns are formed, as they are embarrassing complications in effecting the removal of the cast. If the manipulations are properly made, there is no danger from this source.

Treatment of Retroversion of the Gravid Uterus.

Dr. JAMES MATTHEWS DUNCAN publishes a lecture on this subject in the *Med. Times & Gaz.*, December 1, 1883, from which we take the following:

"And now for treatment. In principle it is simple, and in practice it is generally easy and successful. The urine is drawn off, and the uterus is replaced. Often nothing more is required; and all this may be done in a few minutes. But let us suppose we have a case of some duration, and in which there is some difficulty.

The woman is sent to bed; the lower bowel is evacuated; the bladder is emptied by catheter. Then the patient is placed in the genu-pectoral position, and so as to have negative abdominal pressure, the anterior abdominal wall hanging loose or bagged; and this a woman can do on having the matter explained. In the genu-pectoral position, negative abdominal pressure is the natural condition, and in this position gravity helps the fall of the uterus from the pelvis into the abdomen. If it do not fall, pressure is applied to push it into the abdomen. The axis of the pelvic brim is nearly vertical, and the direction of pushing is nearly in this axis, and it is effected by two fingers in the vagina, or, still better, in the rectum. You are not to expect the uterus to be replaced at once; and you are not to use great violence, for you may perforate the posterior uterine wall by your fingers. You push strongly, nearly as strongly as you can, by the ends of your fingers, and the womb gradually leaves the pelvis. The patient is made to lie down; the uterus is now felt above the pubes, and a vaginal examination discovers the pelvis empty and the cervix in its natural situation. Lest the womb should come down again, the woman should lie quietly in bed for some days. Care has to be taken that the bladder is regularly and completely evacuated, spontaneously or artificially.

In cases where you fail to replace, you may simply wait, keeping the bladder empty, and the uterus may ascend spontaneously, as in one of our recent cases.

If, on waiting, the case becomes worse, symptoms of strangulation of the uterus in the pelvis coming on, you proceed to evacuate the uterus. This I have never had to do. It is effected in the same way as abortion is, in other circumstances, induced, but with difficulty in consequence of the position of the os uteri, and the narrowness and length of the passage to it. Sometimes it is induced by withdrawing the liquor amnii through the vagina and posterior uterine wall, by trocar and cannula.

The Placenta in Breech-Presentation.

Dr. JOHN E. LOOKER thus writes in the *Brit. Med. Jour.*, December 1, 1883:

From a work before me, I quote breech-presentations as occurring 1 in 72½, death of the child 1 in 3⅘; in the same work, the only explanation of this mortality is put down to pressure on the umbilical cord, acting after the birth of the lower extremities and trunk, nor have I been able to find a more conclusive reason in any work on the subject. My experience leads me to believe that, up to the birth of the lower extremities, and most of the trunks, the less interference the better; at this point, it may be necessary to bring down the arms, and now comes the danger to the child. That pressure on the cord may operate dangerously at this stage, in some cases, I allow; but I have generally found this danger a little earlier in the delivery, before the complete expulsion of the trunk, when it is quite possible for a considerable part of the placenta to have become detached; but, with complete extrusion of the body, and the head bearing upon the perinæum, I am of opinion that the placenta is nearly, if not wholly, separated, pressure on the cord being no longer of importance; in fact, with the head in this latter position, pressure is much less likely to act injuriously than with the head at the pelvic brim, supposing the placenta still adherent. The practical points in the management are to let matters alone until the birth of the lower extremities and the abdomen; from this point, to complete the labor with the utmost despatch, drawing down a loop of cord, bringing down the arms, if necessary; taking the body in the right hand, placing the fore and middle fingers of the left hand upon the upper maxillæ, using combined pressure and traction in a direction forwards and downwards (the lower jaw had better be avoided, as more liable to injury, and from its great mobility, affording so little purchase); at the same time, some one present being directed to make pressure through the maternal abdominal wall; this failing, to apply the forceps. My object is to advocate rather earlier active interference than is usually recommended, viz., when the lower half is protruded, as, I believe, this is when pressure on the cord is greatest; that at and after this point, separation of the placenta takes place rapidly, the stoppage of the circulation through the cord materially assisting this separation.

Report of a Case of Discharge of Bile Through the Umbilical Cord in a New-Born Babe.

Dr. W. B. Brooks reports this case in the *Texas Courier Record of Medicine*, November, 1883:

I delivered Mrs. S. of an apparently healthy male child, ligated the umbilical cord as usual, and no abnormal appearance being noticed at the time. Upon the fourth day, at my customary visit to the mother, the nurse called my attention to the child, stating that, " there was something wrong with its navel." On examination, I found that the ligature had caught through the cord and come away, leaving about an inch and a quarter remaining attached to the abdomen. This remaining portion of cord had a vascular, fleshy appearance, standing out almost at right angles from the body, with a small hole in the center, from which was discharging a greenish fluid, which appeared and afterwards from chemical tests proved to be bile. I again ligated the cord about one-half inch from its extremity. Two days afterwards I found the ligature had again cut through, and the umbilical cord discharging bile as before. The third ligature was then placed around the cord one-half inch from its extremity, as before, and the precaution taken to barely tie it tight enough to stop the flow of bile. But in spite of this precaution, the ligature again came away within two days, leaving the stump of cord discharging bile as before, though each time the flow was very much lessened in quantity. Having failed three times in stopping the biliary fistula by the ordinary ligature thrown around the cord, and seeing that it was getting so short that should it fail one more time, I would not have sufficient cord to ligate, I took the precaution to arm a large needle with a very coarse thread double, and passing it directly through this stump close to the abdomen, proceeded to ligate in the ordinary method used for hemorrhoidal tumors. This time the operation proved successful, and in a few days the child was sound and well. The case is of interest only from the fact of its rare occurrence, the writer of this article having been able to find only one other case upon record. Several other physicians of the city were called in to see the child at the time.

An Anomalous Labor.

In the *Brit. Med. Jour.*, December 1, 1883, Dr. A. Drummond Macdonald reports this case:

Mrs. Ann N., aged 38, mother of twelve children, was attended by a midwife in her thirteenth labor, which began at 10 a. m. on October 12. About 6.45 a. m. on the 13th, there was a good deal of colored discharge. The midwife arrived at 7, and recognizing placenta prævia, ruptured the membranes. The liquor amnii had to be "scooped from the bed." Owing to further hemorrhage, she sent for assistance at 9.30 a. m. I found the patient on her left side; practically, there was no perinæum; multiparous laxity was present; there was prolapsus of the funis; the os uteri barely admitted the hand, but was dilatable. The placenta, with the insertion of the cord, was felt in the posterior segment of the cervical zone, partially presenting and detached. I replaced the funis, and touched the vertebral border of a bone, which I believed to be the right scapula. I pushed the shoulder downwards to the left, when a knee-flexure came within reach; then I pulled the breech into the os by the left leg. The pains were feeble. I then gave a drachm and a half of fluid extract of ergot. Soon a powerful pain expelled the body as far as the neck. Delivering the arms, and putting the left fore and middle fingers into the child's mouth in the usual way, I asked the midwife to draw back the perineal remains. The child was born at 10.15, with the heart acting. After much exertion, it cried. It was premature (eighth month); it weighed 6 pounds. The sub-occipito-frontal circumference was 12⅜ inches; the occipito-frontal, 13¼ inches. The placenta was expressed, and the rent in the membranes ran to its border. When last seen, both were doing well.

Remarks.—This case well exemplifies the almost pathognomonic sign of transverse presentation; the total evacuation of liquor amnii; the facility of multiparous version; the convenient absence of the perineal body and skin; the advantage of admitting air to the fœtal tract when the face enters the sacral hollow —antiseptic ideas notwithstanding. My hands and right arm were washed with a solution of iodine, and lubricated with fresh benzoated lard, under the fixed impression that that method is the best prophylactic of puerperal sepsis.

Infantile Erysipelas.

In the *Brit. Med. Jour.*, November 3, 1883, Dr. W. A. Macleod says:

On Tuesday, May 2d, when visiting Mrs. F. during her puerperium, I was asked to look at the child, which, she said, had retched very badly during the night. On my inquiring into the case, she said that it was very much troubled with vomiting, nothing lying upon the stomach, and it was suffering great pain, evinced by the cries it occasionally gave. The child had passed urine, and had a free motion of the bowels, apparently without any pain. The brow showed signs of erysipelas, which was taking a direction downwards towards the right side of the face. I ordered no medicine, and said that all they need do was to apply the best cotton-wool, sprinkled with the finest flour, to the parts affected. I saw the child again. He was looking more easy, and had a better night; but the vomiting still continued, and the erysipelas had spread down the right side of the neck to the forearm. On May 4th there were much the same conditions present, only the erysipelas was beginning to show signs of disappearance. On May 5th the child was looking so well, I considered all further attendance superfluous. On May 13th I was asked to see the child again, as it seemed to be suffering more pain. I found, on examination, that the belly was much swollen, and tympanitic over most parts, but slightly dull in percussion at the flanks, which had the appearance of bulging. The child was suffering great pain, pulled up its legs towards the belly, and cried piteously. The temperature in the rectum was 105° Fahr., and the pulse could scarcely be counted; the tongue was quite dry and leathery. From these signs and symptoms I came to the conclusion that the child was dying, and, therefore, did nothing for it beyond ordering them to give it a very little brandy occasionally. The child died about four o'clock the next morning. I made a post-mortem examination the next day, and the following were the appearances: The bowels were very much injected, and slightly matted together. There were ten ounces of serum in the peritoneal cavity, with a few flakes of lymph. I did not examine the other organs, as the parents were much against it.

Three Cases of Pyosalpinx.

Before the Obstetrical Society of London (*Med. Times & Gaz.*, December 1, 1883), Mr. Lawson Tait read this paper:

The author related three cases of acute peritonitis due to pyosalpinx cured by abdominal section, removal of the diseased appendages, cleansing and draining of the peritoneum. The first case was one of chronic pyosalpinx made acute by a stem pessary. The tube burst, and acute peritonitis followed. Abdominal section was promptly performed, and the patient saved. Mr. Tait quoted the remarks of the gentleman who sent the case to him, as to the effect of the mechanical treatment in causing the disease, the difficulty in discriminating the cases suitable for treatment by stem pessaries, and the dangers of these instruments. The second case had already been published in the *British Medical Journal* of February 17, 1882, and was brought forward here for the purpose of recording the subsequent history, which was that all the symptoms had vanished, and the patient was now perfectly well. The third case was one of purulent peritonitis arising from rupture of a suppurating Fallopian tube. The pyosalpinx was due to gonorrhœal infection. The left tube only was removed. The patient recovered completely. Mr. Tait had now operated on sixty-five cases of occlusion and distention of the Fallopian tube without a death. In only one had there been failure to completely relieve the patient's sufferings. Six cases had been lost sight of, and two had died since the operation, from causes independent of it. The author remarked that cases such as these could not be relieved by anything short of removal of the diseased organs; and that they existed in large numbers, forming a large proportion of the cases which wander about from one practitioner to another, seeking relief. He also complained of some unjust and ungenerous criticisms which were frequently repeated to him, and he asked those who expressed such views to come and see his work.

Subperitoneal Fibroid Tumor of the Uterus, with Both Ovaries and Stump of the Uterus Removed by Laparatomy.

Dr. W. T. BULL reports this case in the *Annals of Anatomy and Surgery*, December, 1883: A single woman, aged 34, was admitted to his service at St. Luke's Hospital in August of this year, with a history of frequent backache, dragging pains in the lower part of the abdomen, and vesical tenesmus for three years previously, menstruation regular. In the middle line of the lower part of the abdomen was a smooth and rounded tumor as large as a child's head—plainly felt above the pubes and in the cul-de-sac of Douglas. It was movable, not tender, apparently cystic, and the uterus lay in front of it, was anteverted and thrown over to the right, where the fundus could be felt through the abdominal wall. The operation was performed on August 14. After exposing the tumor by an incision five inches long, adhesions were found to the ovaries and uterus. A double silk ligature, carbolized, was passed round each broad ligament. The uterus just above the vaginal junction, first temporarily constricted with an écraseur and the tumor cut off an inch and a half beyond this. The pedicle (uterus) was then transfixed and tied with carbolized silk, cut off again half an inch beyond the silk, rubbed with iodoform and returned. On the left side of the pelvis the torn surface of the broad ligament bled. One silk ligature was applied, and the surface rubbed with iodoform.

The sutures were removed on the 15th day. Temperature ranged between 98 and 99.5 F. on the second. Third and fourth days there was vomiting and slight abdominal pains and tympanites.

The tumor was examined by Dr. Ferguson, who reported that it was a fibromyoma, subperitoneal, from the posterior surface of the uterus, about equally from the body and neck. The ovaries are normal in size, the left containing two small cysts. The uterine body is slightly enlarged and laterally flexed. The neck above the point of section is elongated. The mucous membrane is normal.

Anomalous Menstrual Symptoms, with Atrophy of the Uterus.

Dr. JOHN W. FARLOW reports this case in the Boston *Med. and Surg. Jour.*, September 27, 1883: Mrs. S., aged twenty-eight, has been married eight years. Before marriage the catamenia were regular, lasting three days, the flow scanty and painless. She has never had a child, but seven years ago she had two miscarriages, each time at about three months, the result, she thinks, of falls.

After the last miscarriage the catamenia appeared irregularly for several months, and then stopped altogether; so that for nearly seven years there has been no menstruation, in the sense of a discharge of blood from the uterus. In place of this, however, every month, with great regularity, the left breast swells, becomes full, tense, and painful. This condition lasts about a week, and then gradually disappears. No change takes place in the right breast, and there are no symptoms referable to the pelvis.

I saw her toward the end of a monthly period. The right breast was normal, but the left was twice its normal size, prominent, hard, with large blue veins on its surface, painful to the touch; in fact, it had every appearance of a beginning mammary abscess.

The uterus was in normal position, flabby, small, the sound entering only two inches. The vagina was also atrophied.

It is interesting to notice the long continuance and regularity of the swelling of the breast, and also the entire absence of hæmorrhage from the nipple or the mucous membranes which usually serve as points of exit for the blood under such circumstances.

The Duration of Labor.

The *Med. Times & Gaz.*, November 3, 1883, says: A recent number of the *Archiv für Gynäkologie* contains a paper by Dr. R. LUMPE, of Vienna, on the above subject. He has noted the duration of labor, counting from the time when the pains were first felt by the patient, in 1045 cases; and he finds that the average duration of the process, measured in this way, was sixteen hours and a half—a result not widely different from that reached by others who have investigated the question in the same way. But the point of the paper is this: that in the last week or fortnight of pregnancy there takes place, first, a serous infiltration—a kind of œdema of the cervix—and then a slight, gradual, and painless opening of the cervical canal. This, Dr. Lumpe contends, should be regarded as part of the process of labor. He gives a table of fifty first labors observed by himself, in which he examined the patients during the last fortnight of pregnancy, and thus was able to observe this painless opening of the cervix as an initial sign of the approach of labor-pains. He records in the table the dates at which the cervical canal was found patent enough to admit the finger, when the pains began to be felt, and when delivery took place. His observations lead him to the conclusion, as we have said, that this opening of the cervix begins from eight to fourteen days before the uterine contractions commence to be painful. He considers that it is effected by uterine contractions like those which Dr. Braxton Hicks has described as occurring throughout pregnancy.

Influence of Morphinism on Pregnancy.

The *Jour. Am. Med. Ass.*, December, 1883, says; In the Société de Biologie, of Paris (Comptes Rendus), M. CH. FÉRÉ gave his observations in a young woman of twenty-two years, who was hysterical and the daughter of a hysterical mother, who was addicted to morphinism. She had been using morphine freely for three years, at first for facial neuralgia, when she became pregnant. It being deemed advisable to diminish the dose, she was taken with intense uterine colics.

At the time the dose was diminished she was taking 24 centigrammes of chlorhydrate of morphia per day hypodermically, and was six months advanced in pregnancy. At the time of her confinement she was taking only 16 centigrammes. M. Tarnier attended her through a normal labor. A progressive diminution of the dose of morphine was continued, but at each effort at reduction the uterine colics were reproduced, and the uterine contractions checked the discharge of the lochia, causing a complication which required much care in the degree of diminution.

With the child there were also curious phenomena noted. During pregnancy the active movements of the child seemed to resent the absence of the morphia. After birth the child remained sixty hours without sleeping. There was evidently in this a relation between the absence of morphia in the mother and the insomnia in the child.

Death from the Passage of Air through the Uterine Veins.

We take the following from the *Med. Press*, September 26, 1883: The patient was a healthy and powerful woman, bearing her second child. The labor ran a normal course, the patient being in the left-sided position. Immediately after the expulsion of the fœtus the patient was turned on to the back and the uterus pressed upon. The placenta followed quickly and easily, but immediately afterwards convulsive movements supervened, and the patient became unconscious. Deep collapse and superficial respiration followed, and then death, notwithstanding all efforts. At the necropsy bubbles of air were found in all the veins of the neck of the heart, even to the finest branches, as well as in the veins of the uterus. So that the diagnosis which had been made of cardiac paralysis from entrance of air into the circulation was proved to be correct.

As neither catheter nor vaginal tube had been passed into the genital pouch, Dr. Gustav Braun, of Vienna, whose case it was, gave the following explanation: At the change of position of the patient, air found its way through the gaping vulva, the massage of the fundus uteri separated the placenta and forced it out again, but it again entered on relaxation of the uterine walls, and was forced into the uterine veins by the continued massage. The author believes that many cases designated as collapse, *post partum*, and many of sudden death in child-bed and labor, are explained by the supposition of the entrance of air into the uterine veins.

Absorbent Cotton as a Dressing.

In the *Obstetric Gazette*, September, 1883, Dr. Wm. D. Babcock says: For over a year I have been using absorbent cotton as a dressing for the umbilical cord. I have been pleased beyond my expectations. I have had during that time not a single bad result, the cord coming off clean and smooth, not even the sign of a granulation. The skin around was not irritated in the least. My position as attendant to the Christian Home here, a home for unfortunate girls, gives me a good opportunity to try it. Even with the inexperienced girls as nurses I have had no bad effects. When the child is ready to be dressed, I take a liberal piece of the cotton and envelop the cord well. I use no grease of any kind. Dress the cord only once. Do not allow the dressing to be disturbed by the nurse looking at the cord each time the child is dressed. I thus prevent all pulling on the cord. The cord comes off in from three to four days, leaving a perfect navel. There is not at any time the slightest odor. I have used it in some twenty cases. I hope the members of the profession will give it a trial. It will, I think, in a number of cases prevent umbilical hernia by preventing pulling, which occurs more or less in every case when cloth is used. It also gives gentle and equal pressure over the navel.

Gangrene During Pregnancy.

To the Obstetrical Society of London (*Med. Times and Gaz.*, October 20, 1883), Dr. SWAYNE related a case of gangrene occurring during the seventh month of pregnancy. The disease came on after a long journey, and attacked the integuments and muscles over a space the size of a man's fist on the upper and inner third of the right thigh. The symptoms had existed about four days before the occurrence of premature labor, but were not very severe until after delivery, when they became much intensified, and proved fatal early on the third day. There was no injury, wound, or erysipelatous inflammation to account for the occurrence.

Dr. Burchell said that although the case was not clear, he could not help believing it to have been one of strangulated femoral hernia.

Dr. Herman asked if the case was not one of gangrenous carbuncular inflammation.

Dr. Swayne thought the most probable explanation was that the gangrene was due to undue pressure on the iliac vessels, possibly from tight lacing, to which the patient was accustomed. The situation of the tumor precluded the idea of strangulated hernia; the vesication and absence of any head, that of malignant carbuncle; and the absence of diffused redness at the onset, that of erysipelas.

Absence of Vagina and Uterus; Probably Rudimentary Ovaries.

In the Maryland *Med. Jour.*, November 24, 1883, Dr. CHUNN reports the following case: A woman, æt. 23, said she never had menstruated. Up to the age of twenty-two she had had no menstrual molimen, no periodical pains; then pains began, which recurred every four weeks. About two years later she had quite a profuse epistaxis, which continued monthly. On examination she was found to be well developed externally, with erotic desire present, but no entrance could be effected per vaginam, the vagina being replaced by only a slight cul-de-sac. Two fingers were then inserted into the rectum and a Simpson's sound into the bladder, when the fact was revealed that she had no uterus. By further exploration by rectal examination and palpation, no ovaries were to be detected. For six months the patient has had a show, which came probably from the bladder. This shows that the ovaries are present. The symptoms at present existing do not demand treatment; should bad symptoms, however, appear, the doctor would not hesitate to perform laparotomy and remove the ovaries.

Two Cases of Atresia Vulvæ.

In the *Southern Clinic*, November, 1883, Dr. JOHN W. DILLARD says: In August last, I was called to visit two sisters—the elder one was three and a half, the younger two years of age. Upon my arrival, the mother, with much embarrassment, informed me that she had *just discovered* something the matter with their *privates.* An examination revealed complete atresia, with the exception of a small opening, through which urine was voided. I succeeded in passing a medium size probe through this opening, which existed in each case alike, downward and backward sufficiently far to satisfy me that the atresia, in each case, was confined to the vulva. On a succeeding day, assisted by Dr. J. M. Preston, I introduced a grooved director, in each case, and attempted to rupture the union; but it had become so organized that a dissection with the scalpel was required. A pledget of cotton, saturated with carbolized water, was then introduced into the vulva of each child, and orders given to renew it three or four times a day. The result was quite satisfactory.

Stump of the Umbilical Cord.

Dr. L. S. Oppenheimer, of Seymour, Ind., thus writes in the *Western Medical Reporter*, November 18, 1883:

Mrs. D——, multipara, was delivered last December, of a healthy boy. No complications. The cord was not tied until all pulsations had ceased. At the end of about a month my attention was called to a little mass, about half an inch long, at the navel, which had persisted since the child's birth. Otherwise the child seemed perfectly well. The mass was granular in appearance, and from its walls there exuded a thin sero-purulent fluid. The least irritation caused it to bleed slightly. Local applications were used without any apparent result. A ligature was applied at the constricted base, which brought away the mass without any trouble in about two days.

I am in the habit of waiting until pulsation ceases in the cord before tying. I think the child receives more blood by this method, and I have never seen any bad results therefrom.

Placenta Prævia Complicated with Arm-Presentation at the Sixth Month of Pregnancy.

This case is reported by Dr. J. A. Erskine Stuart, in the *Brit. Med. Jour.*, December 1, 1883:

On Monday afternoon, October 29th, I was called to Mrs. H., multipara, who was said to be in labor. On vaginal examination, I found the os of the size of a sixpence, the cervix rigid, and the "bag of waters" just distinguishable; but the presentation could not be made out. I gave her an opiate, and left her; and she remained quiet till about 4:30 next morning, when the nurse discovered that the placenta was born. I was immediately called in, and found the placenta entirely delivered; flooding, however, was going on in great gushes of blood. The child was still engaged in the pelvis, and I found a shoulder-presentation. I immediately proceeded to turn; and, after great difficulty, owing to a tetanically contracted uterus, delivered the patient at about 6 a. m. The fœtus was, of course, dead. The patient had once triplets at six months, besides other premature births.

Death from Pulmonary Embolism After Parturition.

Dr. Horace Hastings reports this case in the *Brit. Med. Jour.*, October 13, 1883:

Mrs. N., a delicate lady, was confined on April 27, 1883, for the second time, and died very unexpectedly twelve days afterwards, with the following symptoms: The labor was instrumental (forceps), but with no injury to either mother or child; and with the exception of some trouble from loaded bowels, there was no unfavorable symptom until the evening of the tenth day, when she had pain in her left leg, and was rendered nervous and sleepless by some mental excitement. For this a morphia-draught was prescribed, and some rest and sleep thereby produced. On the following day a sudden collapse occurred; the patient became cold, almost pulseless, with urgent dyspnœa, and died in the course of a few hours. Dr. Beverley, of Norwich, saw her shortly before death, in consultation with me; and, in the absence of any uterine or abdominal complication, attributed the cause of death to pulmonary embolism.

Case of Compound Presentation.

In the *Brit. Med. Jour.*, October 6, 1883, Dr. HARRISON COATES reports the following case:

On Thursday, September 6, I was called to Mrs. H., multipara, who had been in labor for twelve hours. On vaginal examination, the os uteri was found fairly dilated, and the bag of membranes protruding, evidently containing a portion of the funis. During examination, the membranes were ruptured, and then it was discovered that the funis, both hands, and head, were presenting, the forehead being towards the arch of the os pubis, and the arms extended in the attitude of a man preparing to dive. With considerable difficulty both hands were pushed back behind the head; and, after some delay, in consequence of the objection of friends to any interference, the long forceps was applied, and delivery quickly accomplished. The child (a female) was dead.

Dilatation of the Cervix in Hysterical Opisthotonos.

The *Amer. Pract.*, October, 1883, contains the following: A young woman was recently brought to VONN NUSSBAUM's clinic, who one year before had had the operation of slitting the cervix performed on account of amenorrhœa and hysterical cramps. The operation had given relief, but was not permanent.

The cervix felt hard and cartilaginous, and the os was closed. The cramps had returned, and were of the true opisthotonic type. Von Nussbaum repeated the slitting, and inserted his index finger into the uterine cavity; he then thoroughly cauterized the lips of the wound with Paquelin's thermo-cautery. The operator hopes for the best results from this treatment, and so far the cramps have not returned. (*Allgem. Wien. Med. Zeitung.*)

Removal of a Cancerous Vagina.

In *Berlin. Klin. Woch.*, August 27, 1883, SCHROEDER reports the extirpation of a vagina for cancer involving the greater part of its surface. Instead of operating by the ordinary method, by dissection from above downwards, he made a circular incision anterior to the orifice of the vagina; then isolating the canal by a blunt instrument carried towards the cervix, which he removed with the lower segment. He found that this method greatly facilitated the operation. It was not found necessary to apply any sutures. There were no untoward accidents, and the recovery was rapid. In another case of partial extirpation of the vagina, he found it more advantageous to dissect from below upward.

Arrested Development of One Fœtus of Twins.

To the Obstetrical Society of London (*Med. Times and Gaz.*, October 20, 1883), Dr. EDIS exhibited a specimen of this kind. One fœtus was born alive in the seventh month of pregnancy; the other, expelled seven hours before it, was shrivelled, and its placenta atrophied, apparently having died in utero about two months previously.

Dr. Edis also showed twin fœtuses at about the fifth month of development.

Dr. Malins had seen a case in which one fœtus had been born living at the eighth month, the growth of the other (expelled at the same time) having been arrested at the fourth month. Cruveilhier had illustrated the same condition. Such cases showed the power of toleration possessed by the uterus, and were also interesting in their medico-legal aspect.

Idiopathic Gangrene of the Uterus.

In the *Med. Times and Gaz.*, December 1, 1883, Mr. Lawson Tait reports this case:

The patient, aged thirty-four, was admitted into hospital on account of vague pelvic pain and offensive watery discharge. The uterus felt soft and flabby, the abdomen was swollen, and there were feverish symptoms. The patient died forty days afterwards, and on post-mortem the uterus was found a black, sloughing, stinking mass, having only about a square inch of normal tissue. No reason could be discovered for the gangrene. No operative treatment was permitted, or else it would probably have been quite easy to remove the dead uterus by abdominal section.

An Undescribed Disease of the Fallopian Tubes.

Mr. Lawson Tait also contributed the following case: The patient, aged thirty-six, suffered from constant pelvic pain, aggravated during menstruation and after marital intercourse, and was much emaciated and haggard. She had had much fruitless medical treatment. There were no physical signs of pelvic disease, except great tenderness. Mr. Tait made an exploratory incision, and found the fimbriæ of the tubes adherent by curious little nodules like millet-seeds. He therefore removed the uterine appendages, with the result of completely restoring the patient to health. The nodules had been examined by Mr. F. S. Eve, who reported that he could offer no opinion as to their origin or nature, but that they were neither cartilage nor bone.

Statistics of Cancer.

From the *Berlin. Klin. Woch.*, we note that Dr. Hofmeier read a paper at the Berlin Obstetrical Society, in which he stated that among 10,000 adult women admitted to the Elizabeth Hospital during the period 1865–80 there were 358 cases of cancer, distributed as follows: Cancer of the uterus, 169 (47.2 per cent.); breast, 42 (11.7); vagina, 11 (8.07); ovary, 7 (1.96); vulva, 2; clitoris, 1; stomach and liver, 78 (20.3); rectum, 17 (4.7); mesentery, 8 (2.23); face and epicranium, 8; lungs, 5 (1.39); tongue, 4 (1.11); œsophagus, 4; kidneys, 2; brain, 2; common integument, 2; and bladder, 1.

VII. SURGERY.

Can Syphilis Acquired During Pregnancy Infect the Fœtus?

Dr. J. Henry C. Simes thus writes in the *Polyclinic*, December 15, 1883: The existence of the hereditary form of syphilis was first definitely pointed out by Paracelsus, in the year 1536, and since then it has received most careful consideration, at the hands of numerous writers, as to ætiology, symptomatology, diagnosis, prognosis and treatment. Its study, in fact, owing to the many differences between the hereditary and acquired forms of syphilis, has become almost a special branch of investigation.

In considering the ætiology of this affection, it is found that many and various explanations had been given by the early writers upon this subject, and even at the present time, several points are still undecided, or rather a want of agreement still exists in the conclusions drawn from known facts. Much of this diversity of opinion is due to the many difficulties and peculiar nature of the investigation. The following conclusions, however, have been reached:

1. A syphilitic father may procreate a syphilitic child.
2. A syphilitic mother may give birth to a syphilitic child:
3. Both parents being syphilitic, their offspring will probably be syphilitic.
4. The mother contracting syphilis during gestation, may transmit the disease to the fœtus, provided constitutional contamination has occurred.

The first three of these propositions have been generally accepted by authors; the last has not been so favorably received; more especially is it denied by Kassowitz, whose investigations upon the ætiology of hereditary syphilis have been very elaborate. He concludes, from the study of many cases, that a mother acquiring syphilis during gestation does not transmit the disease to her healthy fœtus, and he also claims that this view is much strengthened by the circumstance, that his investigations in the opposite direction led him to the conclusion that a non-syphilitic mother is capable of giving birth to a syphilitic child. The fœtus, he says, cannot transmit syphilis to the mother through the placental circulation, and in all cases where the mother becomes syphilitic during pregnancy, the disease originated in some other manner.

The opinions advanced by Kassowitz upon this subject have not, however, been accepted by most writers. Their objections are based largely upon clinical observation, that is, upon cases in which the history has been followed from the beginning to the termination. It is just here, however, that the most experienced are liable to, and frequently do, fall into error, not in any way due to their want of skill, but owing to deception, or at times no doubt, to ignorance, on the part of the individual. Where the nature of the investigation is of so peculiar a character as endeavoring to ascertain the ætiology of a disease which is considered by those contracting it a disgrace, deception is not to be wondered at; and where the early symptoms of the disease are frequently so slight and imperceptible that not only the patient, but the surgeon himself, may overlook them, ignorance of their existence may often be possible. Therefore it must be admitted that in the most carefully reported cases there is frequently room for controversy.

After duly considering both sides of the subject, I am inclined to the opinion that syphilis contracted during pregnancy may be transmitted by the mother to a previously healthy fœtus, provided the affection in the mother has passed beyond the initial lesion, and is made manifest by constitutional symptoms. This conclusion has been reached from a physiological and histological study, rather than from clinical observation on the subject.

In order to make my reasoning in this matter secure, it would be necessary to establish the nature of the syphilitic virus, and here it must be admitted that much diversity of opinion exists among the most reliable authorities. I agree fully with those who hold that this virus is a material, and probably a demonstrable substance, but its exact nature I am not at present able to describe; it may be a diseased cell, an infected particle of protoplasm, or a micrococcus; but that it is some degraded anatomical element of the organism, either holding or constituting the virus, and having the power of transmitting it to another organism, all clinical experience and experimental pathology lead me to infer.

It is beyond doubt that the blood of a person affected with constitutional syphilis contains the virus, and is capable, when inoculated upon a non-syphilitic individual, of producing the disease. This virus being, as I believe, a material substance, must exist in the blood, either as a separate element or an organism. In either case the inherent power possessed by the white blood-corpuscle of surrounding or incorporating with itself any material substance with which it comes in contact, leads me to conclude that these corpuscles are the chief, if not the only means, by which the virus is transmitted from one organism to another.

When the histological relations of the placental and uterine connection are examined, it is seen, from the most recent investigations, that no direct communication exists between the circulation of the placental and maternal blood. From this anatomical structure of the parts, it has been considered impossible for a material virus to pass from mother to fœtus. That a direct communication is necessary, in order that a material substance may be conveyed from mother to fœtus, I do not believe. Referring again to the white blood-corpuscle—our carrier of the virus—it is known to possess the vital property of movement or emigration, and also has the power of penetrating and passing through the protoplasmic wall of the blood vessels. These physiological and histological conditions existing, and being capable of demonstration, a direct communication of maternal and fœtal circulation is not required in order that a material virus may pass from one to the other. The white blood-corpuscle containing or constituting, as the case may be, the peculiar virus of syphilis, may pass directly through the vascular wall and infect the fœtus.

The possibility, or rather the certainty of the white blood-corpuscles having the power of carrying material substances from the maternal to the fœtal circulation, has been demonstrated by the experimental researches of several investigators. When minute insoluble particles, such as cinnabar or indigo, are injected into the blood vessels of a living pregnant animal, and the animal killed after a varying period, it is found that an examination of the fœtuses, within the uterus, shows the white corpuscles of their blood to contain some of the particles which were injected into the blood vessels of the mother. Therefore, if it is possible for such comparatively large and appreciable particles to pass from one organism to another, through the placenta, it is not unreasonable to conclude, that it is possible or even very probable, that the virus of syphilis, which has as yet escaped our observation when sought for with the highest powers of the microscope, may not in a similar manner be transmitted. These experiments would certainly indicate that it is immaterial whether an immediate and direct vascular communication does or does not exist between mother and fœtus, although this question seems to be the only one which investigators have endeavored to determine, in order to explain fœtal infection.

The vital amœboid movement, the inherent power of incorporating within itself foreign substances, and the acknowledged power of passing through the protoplasmic wall of the blood vessels, are all attributes possessed by the white blood-corpuscle, and are, I think, sufficient to explain the manner and possibility of fœtal contamination.

The Treatment of Fæcal Fistula of Inflammatory Origin.

The *London Med. Record*, November 15, 1883, tells us that Dr. B. Riedel has lately recorded (*Centralbl. für Chir.*, No. 14, 1883) two cases of fæcal fistula of inflammatory origin treated with success by operation. Fæcal fistula of such origin, being of much less frequent occurrence than fistula resulting from strangulated hernia, has not, Dr. Riedel points out, engaged the attention of surgeons so much as the latter variety. The subject of the first of these cases was a young man, aged 17, who six years before he came under the author's notice had a sudden attack of suppuration in the right iliac fossa. After free discharge through an incision of much ill-smelling pus, a fistula had formed which remained open for six months, then repeatedly closed and re-opened, and finally remained opened for about twelve months. There was an opening about half-an-inch above Poupart's ligament, and about one inch and a quarter to the inner side of the antero-superior spine of the ilium, through which, after some dilatation, the finger could be passed along a canal lined by mucous membrane into intestine. After an unsuccessful attempt to close the opening by excision of the fistula and bringing the raw edges together by sutures, the affected portion of intestine, at a subsequent operation, was freely detached from the muscular structure of the abdominal wall, brought well into view, and the orifice in its coats closed by bringing together with sutures of very fine silk the edges of the serous layer. Notwithstanding a free discharge of fæcal matter from the seat of operation on the sixth day, the wound gradually closed, so that three months later the patient had completely recovered. In the second case a similar, though much more extensive, operation was performed on a man, 25 years of age, who presented a fæcal fistula in the right iliac fossa, which had followed incision into a very large pelvic abscess, the purulent contents of which on the second day after this incision were found mixed with fæcal matter. After the surface of the affected portion of intestine had been exposed by a very large wound, about ten inches in length and six inches in breadth, a double fistula was observed. At a subsequent operation, the perforated portion of intestine was separated from the surrounding parts, the two fistulous orifices converted into one by division of the intervening bridge, and the peritoneal edges of this large opening brought together by sutures. In this, as in the former case, there was after the operation a fæcal discharge from the wound, but here it was very slight, and ceased at the end of the third week.

Dr. Riedel states that in neither of these cases could the starting point of the lesion be clearly made out. As there was no indication of previous intestinal disturbance, it cannot be assumed to have been typhlitis. Although the view of a glandular origin might be opposed by the fact that no lesion was observed on the lower limbs or on the genitals, still Dr. Riedel is disposed to think that the abscesses in these two cases, as in many instances of acute psoas abscess, really started in suppuration of some pelvic glands; and it is suggested that this glandular mischief may have been started by abrasion or fissure of the mucous membrane of the anus. Such pelvic abscess may burst at an early date into the gut and the pus be discharged by the rectum, whilst the passage of fæcal matter into the cavity of the abscess may be prevented by a valvular disposition of the margins of the intestinal opening. In the first case, the fistula had at one time remained closed for two years, although during this period there remained a large opening in the wall of the intestine. This opening must during this time have been hermetically closed by the firmly applied superjacent skin.

In dealing with a fæcal fistula of inflammatory origin, Dr. Riedel exposes the seat of perforation, sets free the affected portion of intestine so as to be able to drag this to the surface, and then closes the orifice by sutures. He doubts whether the peritoneal cavity was opened in either of his two cases. No loops of smooth intestine were observed. Probably around the seat of the fistula in each case there had been formed, between the intestine and the abdominal wall, thin membranous adhesions which allowed the perforated portion of intestine to sink back into the abdomen, and yet prevented the passage of fæcal matter into this cavity. In Dr. Riedel's cases, the conditions for the success of his operative treatment were favorable, as the adhesions between the intestine and the anterior abdominal wall were of slight extent. In an instance of wide union of these structures, it would be necessary to have recourse to resection of the perforated portion of the intestine.

Supposed Rupture of the Bladder.

Dr. T. F. Hugh Smith reports this case in the *Lancet*, December 1, 1883: On September 17th, J. F———, a healthy-looking man aged thirty-two, fell from the saddle whilst riding over stone paving, "all of a heap," and the horse's off hind leg is said to have struck him in the abdomen. The man had drunk beer freely during the day, and had not passed water since 11 a. m. The accident happened at 4.30 p. m. Vomiting occurred immediately; also abdominal pain was experienced, which "doubled him up." He asked to have his clothes loosened, on account of a feeling of tightness round the abdomen. The patient was seen for the first time at 10 p. m. No urine had been passed, though there was strong desire and constant straining made. He felt pain in the abdomen, most marked in the upper two-thirds. The thighs were flexed, the patient lying on his right side. The extremities were below normal temperature; pulse full (64). Resonance was general over the abdomen. A No. 8 catheter was passed easily up to the "eyes;" two ounces and a half of urine mixed with altered blood were drawn off. Heat to the extremities and hot fomentations to the abdomen were applied, and a pill containing one grain of opium was ordered to be given every three hours. A catheter was tied in, and a little urine welled up when the patient made any effort.

18th. The patient dozed during last night; took beef-tea and milk, together with a teaspoonful of brandy, every three hours. At 4.15 p. m., a soft catheter à coudée (No. 10) was substituted for No. 8, silver. The heat of the extremities returned to normal. Paroxysms of abdominal pain occurred at intervals of a few minutes.

19th. The patient had a sleepless night on account of abdominal pain. With the exception of slightly increased pain and a rise of temperature to 101°, the patient did well until the 21st.

21st. The catheter was blocked at 2 a. m.; some urine found its way alongside of the instrument. When seen at 6 a. m., there were symptoms of collapse. Temperature, 98.1°; pulse, 120. Great pain in, and tenderness of, abdomen. Opium increased. A larger gum elastic catheter was tied in; urine, deep crimson, containing some mucus; tympanites and distention; vomited at 3 p. m.; stimulants increased. 6 p. m. Pain began to abate; urine passed through catheter.

22d. Very little pain during the night; catheter acting well; pulse, 108. 4 p. m. General condition favorable; enema given and returned; on removing catheter for cleansing, clear urine flowed freely per urethram. Pulse, 116; temperature, 103°. Catheter left out for the first time since the accident (sixth day). 5.30 p. m. Vomiting.

23d. Bilious vomiting frequent; pulse full, jerky (96); temperature, 99°. One pint of water passed during the night per urethram; four ounces came away on passing catheter. Catheter again tied in. 5.30 p. m. Severe abdominal pain; enema given and returned with flatus; some relief, but distention remained.

24th. Evident emaciation; anxious countenance; upper two-thirds of abdomen prominent and tympanitic, lower third appeared to be bound down, and marked dulness detected in the left flank. The patient passed four pints of clear acid urine during the past twenty-four hours. Vomiting continued, and he gradually sank, dying at 7 a. m., September 26th.

Remarks.—There were three periods of interest in the case—first, that of reaction followed by progress (September 18th, 19th, 20th); secondly, that of collapse when the catheter became blocked (September 21st); thirdly, that of greatly increased peritonitis following soon upon omission of catheter on the afternoon of September 22d. The omission of the catheter was made against the advice of my father, Mr. Henry Smith, and of my senior partner, Dr. Ashurst, but the passage of clear urine per urethram on the 22d, occurring after my having sought that advice, together with the risk of blocking the catheter (the patient living at a distance of three miles), induced me to trust to expulsion through the natural passage on the sixth day after the presumed rupture. No post-mortem was made.

Castration of Tubercular Testicles.

The *Jour. Amer. Med. Ass.*, December, 1883, tells us that M. CH. MONOD (*Le Progrès Médical*), having three cases of tubercles of the testicle in the Hospital Necker, discusses, in his clinic, the question of the propriety of castration. He defines the disease as presenting itself habitually in the form of a subacute epididymitis, ordinarily bilateral, without tendency to spontaneous cure, and going on, after a longer or shorter period, to suppuration. When an epididymitis appears without appreciable cause, without blenorrhagia, without traumatism, the question of tubercle arises, which becomes more prominent when that epididymitis resists all treatment; and when a limited suppuration sets in without warning at some one point of the organ, and opens spontaneously, the diagnosis is complete. The local phenomena are not always so clearly defined, and it is indispensable that we examine the annexes of the testicle, practicing the rectal touch to determine the condition of the prostate and of the vesiculæ seminales, and examining the spermatic cord. Generally, there is an induration of the prostate, with a greater or less enlargement, being sometimes unilateral and sometimes bilateral. If the prostate be found healthy, we nevertheless penetrate further into the rectum, to examine the vesiculæ seminales. In young subjects, where these parts are in a healthy condition, they are not readily felt; where they are felt, in a case affected with induration of the testicle, it must be admitted that these organs are enlarged, and probably already the seat of tubercular lesion. The examination of the cord shows a tumefaction of the vas deferens, or, when further advanced, a nodular feel, and a more or less marked monoliform condition.

Recognizing the unity of tuberculosis and an elementary lesion which could be removed by extirpation, and thus possibly prevent a general contamination of the organism, M. Monod advised castration, thus following Prof. Trelat in his views that the suppression of the primitive tuberculous focus was imperative whenever ablation was possible. His answers to objections to this course are, in effect, that as the disease penetrates by one point in the economy, it is not irrational to admit that it is possible to arrest it in its evolution, if it is attacked at its first stage. M. Ch. Nelaton has cited in his thesis, two cases where, after this operation, the patients remained absolutely cured, without the lungs ever becoming affected. The researches of Cadeau, of Martin (of Geneva), of Prof. Richet, and others, have shown that evident pulmonary lesions have retrograded, and, in certain cases, disappeared completely, after the surgical treatment of a local tuberculosis. Prof. Verneuil considers that traumatism, in a tubercular case, gives a stimulus to the pre-existing diathesis and hastens death, either by aggravating a pulmonary lesion which, up to that time, was latent, or in causing a development of tubercular meningitis or of general miliary tubercle. Such operations as the cleansing of old abscesses are particularly objectionable, for, in opening the numerous vessels, they may give rise to a veritable auto-inoculation of the disease; to a direct penetration of the parasite of tuberculosis into the organism. M. Verneuil, however, recognizes that there are cases where these complications have not been produced, and does not conclude that it is necessary to abstain from all operations on tubercular subjects, but that a restraint must be put upon the indications for operative interference. To sum up, tubercle of the testicle is not one of those lesions which we should despair of relieving too readily. To the general treatment, recently enriched by new resources, we have joined, under certain reserves, a more active remedy—ablation of the organ itself; thus suppressing the local disease and its consequences.

Congenital Dislocation of Both Femora.

Before the Royal Medical and Chirurgical Society (*Brit. Med. Jour.*, Dec. 1, 1833), Mr. G. Cowell showed four cases, and, on the invitation of the President, made some remarks on them. In all, the characteristic symptoms were present; the flattened nates, the high trochanters, the lordosis with prominent abdomen, and the peculiar waddling gait. It was interesting to notice how well children were able to accommodate themselves to altered conditions, and to continue locomotion fairly, comfortably even, with such serious malformation. How far a new joint might have been formed, it was impossible for him to say. The number of such cases was much larger in girls than boys, in the ratio of about 28 to 8; of that, he thought no satisfactory explanation had been given. It was at one time supposed that it was because dislocation occurred during labor, and was due to the greater breadth of the female pelvis as compared with the male. But, in the first place, he regarded these as dislocations *in utero* before birth; and, in the second place, he believed it had been shown that the female pelvis was rather smaller at birth than the male. They were sometimes ascribed to breech presentations; but of these four cases, only one had been born in this way. He considered it, not as an arrest in the growth of the femur, but as the result of an acetabulum abnormally shallow from malformation, as had been shown in some dissections. Mr. William Adams expressed great interest in the cases which had been shown, and pointed out that these congenital dislocations had never been noticed by Brodie or Astley Cooper; and, in fact, the only work on the subject was by Mr. J. Murray Carnochan, of New York, published in New York in 1850. Mr. Carnochan, when on a visit to England, recognized a boy on Westminster Bridge with the characteristic waddling gait, and brought him into St. Thomas's Hospital. He believed it was the first case seen there, and little attention was paid to it except by Mr. South, who had had a statue of the boy put up in the museum. Of the boy himself, there was no other record left, for he unfortunately was burnt. In his own practice he had observed about forty or fifty cases, and had noticed nearly as many in boys as in girls, and about as many congenital dislocations of one hip as of both. When one hip only was affected, it was often set down merely to "hip-joint disease;" and when both were affected, it was merely "a waddle, which the child would grow out of;" but that unfortunately was not the case. To call it dislocation was not quite accurate; it was due to a malformation of the acetabulum, which allowed the head of the femur to move where it liked. As to the cause of the malformation, he had nothing to suggest. In treatment, he considered it his duty to devote his attention to preventing any connective deformity, as far as possible; and that was best attained by insisting on as much lying down as possible, with gymnastic exercises in the recumbent posture. No operation was of any avail. Mr. A. E. Barker said that an examination of specimens in the Musée Dupuytren had shown him the arrest of development of the acetabulum; and, in answer to a question from the President, he stated that in some specimens the ligamentum teres was completely absent, and, in others, it was stretched to the length of two and a half inches. The President, in closing the discussion, remarked that it was quite possible that the congenital absence of the ligamentum teres might be the original malformation, and the flattening of the acetabulum the consequence.

A Simple Dressing for Fractured Clavicle.

Dr. H. Cooper thus writes in the *New England Med. Mo.*, Dec. 15, 1883.

The thing to be secured in the way of treatment, as Prof. P. S. Connor used to tell us, "is to place the shoulder upward, backward and outward, and keep it there if you can." The case under observation was as follows:

Myrton Woodward, aged nine years, while performing gymnastics over the top rail of the barn-yard bars, fell head foremost, striking on his right shoulder, sustaining a comminuted fracture of the clavicle about two inches from the scapula articulation. The deformity produced was what may be seen in any fractured clavicle, with considerable displacement of the fractured ends, and a remarkable prominence at the inferior angle of the scapula. The case was seen three hours after the accident, when there was a moderate amount of swelling and great tenderness. I placed a bandage of cotton cloth extending from the axillæ to the xyphoid appendix tightly about him. I then took a roller bandage about four inches wide and placed a closed loop around the arm of the injured side, carrying the bandage backwards over a firm compress on the inferior angle of the scapula, passed the bandage tightly around the body under the arm of the well side, now forward and obliquely along the forepart of the thorax, ascending to the shoulder at the seat of the fracture, and fastened the end to the bandage a little to the axillary side of the compress. The roller bandage was fastened with needle and thread to the thoracic bandage from the compress to the left border of the gladiolus; also, the compress was thoroughly fastened to the roller bandage. The forearm of the injured side was placed across the thorax, the elbow bent at nearly right angles, and held in place by a common sling thrown around the neck. The lad was kept in bed four days, after which he was about his play as usual with the other children. Redressed it the tenth day, but the first dressing had not slipped or become loose. His hand was now fastened into the sling for fear he would take it out, and so do some harm to the uniting fracture, when he was interested in his play. The sling was taken off at the end of the third week, and the bandages at the end of the fourth week.

The fracture healed without an unpleasant symptom and without any deformity. The compress being firmly pressed down and held there by the bandage, depressed the inferior angle of the scapula, at the same time throwing the shoulder upwards and outwards, while the bandage, passing over the shoulder from before back, threw it backwards; the humerus was kept in apposition with the side, and well drawn back, also, assisting in keeping the shoulder backwards and outwards. The roller bandage could not slip, as it was thoroughly fastened to the thoracic.

This case is reported because the above method of treatment has given such good results in my hands I wished to tell it to others that they, too, might try it.

The Future of Cerebral Surgery.

The *Brit. Med. Jour.*, October 27, 1883, says: At the conclusion of his introductory address, delivered before the Royal Medical and Chirurgical Society, Dr. **Ferrier** made a most important observation, which cannot fail to prove of interest to all contemporary surgeons. He remarked that physicians would not be justified in advising surgical operations on the brain, and surgeons would refrain from active interference, until the principles and diagnosis of regional disease had been established with as near an approach to certainty as is possible, where all is hidden from the eye and hand. But, he continued, it is doubtful that any reason now remains why a surgeon, who fearlessly exposes the abdominal viscera, should not open the cranial cavity. Dr. Ferrier has seen complete recovery constantly follow some of the most formidable operations that have been performed on the brain and its coverings, in animals of the most delicate and almost human organization, when stringent antiseptic precautions had been taken. He cannot, therefore, but believe that similar results are capable of being achieved on man himself. Secondary inflammation can be absolutely prevented, and there is no risk to life from even extensive destruction of the cerebral hemispheres. In removing tumors or diseased cerebral tissue, no doubt healthy structures might be injured; but this would not necessarily cause mental disorder. The triumphs of abdominal surgery, due in a great measure to advances in clinical and pathological science, and the correct appreciation of the physiology of abdominal structures and organs, have been followed by a great activity in the department of thoracic surgery. Surgeons now have the high authority of Dr. Ferrier to encourage them in untried efforts for the cure of cerebral disease by operation. It may be said that trephining is a very old, and yet still a not very satisfactory practice; but hitherto it has generally been performed for the relief of some result of injury when deeper and more serious damage exists, or for the cure of a local condition implying, of necessity, more or less general disease of the brain. Tapping the pleura and Cæsarian section are also very old operations, practised long before thoracic and abdominal surgery had reached their present extended stage of development. They have been supplemented or superseded by operations performed with more deliberation, and not so often under conditions of emergency. Through the labors of Dr. Ferrier, the future surgeon will probably perform with success operations which will bear the same relation to simple trephining as ovariotomy and Porro's operation bear to repeated tapping of ovarian cysts and Cæsarian section.

Abscess of the Small Intestine.

Dr. J. H. **Ashlock** reports this case in the *Louisville Med. News*, December 15, 1883:

S. W., a stout lad of twelve years, while playing at school, on the 20th of August, 1882, fell, his abdomen striking a small stump. He suffered but little pain at the time of the injury, and, excepting a slight tenderness over the abdomen, with an indisposition to study or engage in plays, nothing unusual was noticeable about him for two weeks, at the end of which time he began to complain of severe paroxysmal pain in the abdomen.

A physician was called, and mistaking his case for colic induced by some indigestible article of food, administered cathartics. He rapidly grew worse.

I was called to see him three weeks from the date of the injury. I found him suffering the most agonizing pain; features pinched; pulse weak and one hundred and twenty per minute; constant sick stomach; temperature 101° F., diarrhœa. On exploring the abdomen I found localized tenderness in the umbilical region, about one inch above and to the right of the umbilicus. Firm pressure revealed a considerable induration, which gave a dull sound on percussion.

I expressed the opinon that the injury was done to the small bowels, probably the jejunum, when he got the fall while playing at school, and told his parents that if the tumor should suppurate and be discharged from the bowels, the prognosis would be much more favorable than if it were to be discharged elsewhere; but at the best the prognosis was gloomy.

The treatment consisted of opium to relieve pain and keep the bowels quiet; subnitrate of bismuth for its soothing effect upon the mucous membrane; quinine as a tonic and antipyretic; and a cataplasm over the affected part. His diet consisted of concentrated nutritive liquids, and the parents were instructed to feed him often and but a little at a time. He also got whisky every two hours.

He was kept on this treatment for four days, when he felt "something give way," and an immediate desire to evacuate his bowels. A considerable quantity, near a pint, of pus and blood was discharged, and he expressed himself as relieved to a considerable extent. He was directed to continue the same treatment so long as there was pus or blood in the evacuations, which, however, entirely ceased in a week's time from date of first discharge. From this on he improved rapidly, and at this writing he is well and strong.

The only noteworthy feature in this case was the length of time between the date of injury and manifestation of the symptoms of abscess.

Floating Kidney.

The *Brit. Med. Jour.*, September 29, 1883, says:

Professor SENATOR's conclusions, recently published in the *Charité Annalen*, based upon the records of thirty-two cases, agree in almost every particular with those to be found in Landau's *Wanderniere der Frauen.* Senator terms the affection "ectopia renis." He found 1 in every 139 sick women to be subject to floating kidney, independently of age or social station. Disappearance of the fat around the capsule of the kidney can hardly be a cause of this condition, for there is little or no such fat in children, amongst whom floating kidney is very rare, and men are as liable to emaciation as women, yet floating kidney is much less frequent amongst men than in women. The absence of fat, as SENATOR most pertinently observes, does not cause floating kidney, but facilitates diagnosis. The causes are more probably to be found in the condition of the generative organs and defects of attire. Repeated pregnancy causing pendulous abdomen is a very probable cause; and uterine displacements are considered by Landau to influence the position of the kidney; the same authority attributes displacement of the kidney to tumors and hydronephrosis, but Senator has never observed these pathological conditions in any of his cases. Tight-lacing is considered as a highly probable cause of floating kidney, as Mr. Clement Lucas observes in his paper on surgical diseases of the kidney, published in this week's *Journal*, and would account for the greater frequency of displacement of the right kidney, which, in a tight-lacing woman, is subject to prolonged pressure by a large solid body, the liver. The greater length of the right renal artery favors displacement of the right kidney. To make diagnosis as certain as possible, the patient should first be placed on her back, the abdominal walls must then be thoroughly relaxed by passive elevation of the lower extremities. In examining the right lumbar region, the surgeon or physician should stand on the same side, and place the left hand on the loin posteriorly and the right on the abdomen, in examining the opposite side, these tactics must be reversed. Professor Senator appears to prefer this method to Landau's, for if the medical attendant stand on the opposite side of the patient, with the position of the hands reversed, Senator believes that the displaced organ is more likely to be pushed aside and thus elude detection.

Sudden Extensive Hemorrhage into the Skin.

Dr. WALTER G. SMITH reports this case in the Dublin *Jour. Med. Sci.*, November, 1883:

James D., aged forty years, laborer, admitted 23d May, 1883. He had not been in good health for the past six months, complaining of sick stomach and lightness in the head; and had been drinking whisky freely before his present illness came on. On Thursday night, *i. e.*, four days prior to admission, after he had retired to bed, he suddenly felt down the back of the right thigh a sharp pain, which he described as like rheumatism. This pain was not continuous, but came and went at intervals of a few minutes. Next morning it was found that the back of the thigh was discolored, nearly black.

State on Admission.—From the fold of the nates to the lower part of the popliteal space there was an extensive dusky-red ecchymosis. The hæmorrhage was distributed in closely adjacent patches, arranged as vertical and transverse stripes (vibices), chiefly the latter, and closely following the crest of the ilium there was another broad streak of hæmorrhage. No trace of hæmorrhage existed elsewhere on the body.

No alteration in size could be made out in either liver or spleen. Lungs healthy; pulse fairly strong—44. Copious deposit of mucus in the urine, which was free from albumen, sugar, or bile. The patient was ordered a mixture of ergot and iron, and under the influence of rest in bed the hæmorrhage rapidly faded, and six days after admission had almost entirely disappeared.

Points of Interest.—1. Suddenness of the hæmorrhage. 2. Its peculiar arrangement in stripes. 3. Limited to one limb. 4. Hæmorrhage not clearly associated with any definite cause or concomitant condition.

Spasmodic Stricture of Urethra.

Dr. THOMAS M. MARKOE has this case in the *Med. Gazette*, December 1, 1883:

History does not elicit any traumatism. The patient is 33 years old, and was admitted to the hospital on February 13, 1883.

There is no history of gonorrhœa, but 1½ years ago had a chancroid, the scar of which is still visible on the glans penis. The symptoms of the existence of stricture have been a twisting and diminished size of his stream of urine, but he has never had retention.

Two weeks ago his urine began to dribble away.

On examination: A No. 26 bougie was arrested at 5¾ inches; a No. 10 flexible bougie at 6¾ inches, and a filiform or whalebone bougie at the same point. There is no accumulation of urine in the bladder.

His urine has been examined and nothing abnormal found. He still is able to pass a pretty fair stream of water, so that we can be certain there is no absolute physical obstacle to the passage of an instrument; for where urine can come out in a fair-sized stream, an instrument ought to go in. I do not say that I or any one else can pass one, however; for the canal, although perfectly pervious, may be tortuous, and thus would prevent the passage of an instrument.

First, we ascertain the location of the stricture by seeing where a full-sized bougie is arrested. I try first with a No. 26, and find it is arrested at the bulbo-membranous junction, and then passes into the bladder. So that there is no necessity of performing urethrotomy, and the interest in the case terminates, since a large-sized instrument passes into the bladder, while the patient is anæsthetized, which it would not do before.

The case is one which is properly treated by dilatation.

A Cheap Evacuator for Stone in the Bladder.

Dr. F. N. Otis read a paper describing this instrument before the N. Y. Academy of Medicine (*N. Y. Med. Jour.*, November 10, 1883):

After describing the evacuators invented by different surgeons, and those by Dr. Bigelow in particular, and stating that he had always found the last instrument perfected by Dr. Bigelow to work with entire satisfaction, he remarked that the cost was very considerable, and there was the objection also that the strainer was liable to become clogged with mucus and other material, and require to be cleaned. Dr. Otis then described a simple instrument recently invented by himself, which, besides possessing other virtues, was reasonably cheap, being sold for half the price demanded for that of Dr. Bigelow. It consisted of a glass globe, about two inches in diameter, into one side of which a metallic tube was introduced, extending upward, and connected without with a rubber air-chamber; into the other side another metallic tube was introduced, extending downward, and connected with the tube leading to the bladder; the particles of stone fell into a receptacle attached to the globe on its lower surface. The globe was filled with water by suction force through the end of the tube, or it was poured in directly at the junction with the débris-receiver; the amount of fluid in the bladder could also be increased by the latter method. If thought desirable in any given case, the quantity of water in the glass globe could be increased by filling the air-chamber with water. Pressing upon the rubber air-chamber, the water was forced into the bladder, and, on removing the pressure, it returned loaded with particles of stone, which dropped directly into the receptacle below, and were not in the least disturbed by the agitation of the fluid above.

Ununited Fracture of Left Thigh a Hand's Breadth Above the Patella; Resection; Fragments united by Wire Sutures.

To the New York Surgical Society (*N. Y. Med. Jour.*, December 22, 1883) Dr. H. C. Post presented a specimen, and said:

"On the 2d of July, 1883, I was on a visit to Charlotte, N. C., and saw a man, fifty-one years of age, who had been injured by the explosion of a boiler on the 24th of June, 1882. He had a compound fracture of the left thigh a hand's breadth above the patella; also a compound fracture of the left arm near its middle, and sundry contusions of different parts of his body. He had recovered from all his other injuries, but the fracture of the thigh remained ununited. His general health was good.

"Condition July 2, 1883.—The limb is shortened about five centimetres. The upper fragment overlaps the lower on the outer side, and there is very free motion between the fragments.

"Operation July 2d.—The patient being etherized, I made a free incision over the anterior and outer surfaces of the upper fragment, divided the periosteum, and worked carefully on the surface of the bone with a blunt instrument; and, after a long and persevering effort, succeeded in turning out the end of the bone and removing it with a saw. The portion removed was a little more than three centimetres in length. The lower fragment was very deep and difficult of access, but I succeeded at last in exposing it sufficiently to pass a chain saw around it, and to remove its extremity, which terminated in a rounded point. The portion removed was a little less than three centimetres in length. It required much effort to bring the sawn surfaces of the fragments into contact. I drilled two holes in each segment, and wired the segments together with annealed iron wire. A plaster-of-Paris splint, previously prepared, was applied to the dorsal and lateral surfaces of the limb. Carbolized compresses were placed between the lips of the wound, which were simply drawn toward each other, and secured by a roller bandage. Over this a plaster-of-Paris bandage was applied.

"July 3d.—The patient had been somewhat restless and uncomfortable during the night, but I found him in a very fair condition. Pulse 84, and of good volume. Tongue clean. I did not disturb the wound.

"4th.—Pulse 108, temperature 101.75°. Dressed the wound. Made a large fenestra in the plaster bandage. Removed the compresses. Washed the wound with carbolic acid, 1 to 40. Dusted the surface with iodoform. Applied lint wet with the carbolized lotion to the surface of the wound, which was in a good condition. Interposed between the skin and the edges of the fenestra lint moistened with carbolized oil, two scruples to one ounce.

"5th.—Condition improved. Pulse 96, temperature 100.75°. Wound in good condition. Very little discharge. No odor. Dressed as before.

"6th.—Still improving. Pulse 102, temperature, 100°. Same dressing.

"7th.—Pulse 95, temperature 100°. All symptoms continue favorable.

"8th.—Pulse 90, temperature 99.6°. Wound looks well. Moderate suppuration. No odor. Bowels constipated. Ordered cathartic enema.

"A few days after the last report I came on to the North, and I have not seen the patient since that time. Last month I received a letter from his physician, Dr. J. P. McComb, of Charlotte, giving me an account of the further progress of the case. This letter is dated October 16th. He writes: 'The bone has united, and the wound is almost healed. He can not bend his knee much, but it is improving. He is walking on crutches. The limb is shortened about three inches. There is a large callus all around the limb. He is very grateful for his prospects of a good leg.'"

Subcoracoid Dislocation of the Humerus.

The difficulty experienced in accomplishing reduction of the head of the humerus in subcoracoid dislocation is due principally to the resistance offered to its return by the edges of the rent in the capsular ligament made at the time of the displacement. Traction and the manipulations of the older methods only serve to make the edges of this rent more tense, thus pressing the neck of the humerus more closely against the anterior edge of the glenoid cavity, and grasping more firmly the displaced head. Again, the inferior or posterior part of the capsule and the muscles which pass over and strengthen it cover over a portion of the glenoid cavity, partially occluding it, and in this way offer a further obstacle to the return of the bone to its normal position.

The method recommended for reduction by Prof. KOCHER is as follows:

Patient, sitting up; the forearm is flexed to a right angle with the arm, the elbow pressed firmly to the side of the chest; the arm rotated outward until firm resistance is met with; then, the arm still rotated, the elbow is carried forward and inward over the chest to near the median line; then the arm rotated inward. The last movement is one of restitution, and carries the hand to the shoulder opposite the one dislocated. These manipulations resolve themselves practically into two movements—outward rotation and flexion, as insisted upon by Professor Kocher. He claims that by the use of the movements recommended by him the edges of the rent in the capsular ligament are relaxed, more particularly the superior or anterior one formed principally by the coraco-humeral fibres, the obstruction caused by the inferior or posterior one removed, the opening rendered more patent, and the head of the bone approximated to the glenoid cavity.

In the New York *Med. Jour.*, Sept. 29, 1883, Dr. CHARLES A. JERSEY reports twenty-one cases so reduced with the following results:

In seventeen cases the bone was replaced at the first trial without difficulty; in one case some trouble was experienced; in the remaining three cases the displacement was only accomplished after several unsuccessful attempts. Ether was not administed in any case.

In examining the records of the twenty-one dislocations immediately preceding those here enumerated, all of them recent subcoracoid luxations, reduced by other methods, I find that the employment of an anæsthetic was necessary in seven cases before reduction was accomplished. The advantages claimed for Kocher's method are as follows:

1. The control obtained over the humerus by the position of the forearm.
2. The advantage obtained by the relaxation of the edges of the rent in the capsular ligament.
3. The absence of the necessity for the employment of an anæsthetic.
4. The absence of pain to the patient, and of discomfort to both surgeon and patient, as compared to other methods.

Urethral Hyperæsthesia.

Dr. C. A. **Bryce** thus writes in the *Southern Clinic*, December, 1883: Many cases of spermatorrhœa, nocturnal emissions, fretful bladder, and more distant sympathetic disturbances, owe their origin directly to *urethral hyperæsthesia. The symptoms* and *diagnosis* of this condition may be summed up as follows: Pain, stinging, ardor urinæ, fretful bladder, sympathetic rectal irritation, pollutions, frequent erections, and other symptoms of a similar character. An examination will fail to detect the presence of stricture, stone, gleet ulcers, or even subacute inflammation; but on the contrary the urethra will be found to be pale, cold, and without tone or sufficient contractility. As a general rule the subjects of this affection are patients between twenty and thirty years of age, whose habits have been of such a character as to depress the nervous and sexual powers; in other words, they will be found to be *below par* in the scale of physical health and general stamina.

The treatment most effectual in my hands has been medical and surgical combined. It would be folly to expect to cure such a patient without the assistance of systemic remedies. Cheerful society, relief of mental tension upon the subject of the disease, tonics, iron, bark, cod-liver oil, nux vomica, and such agents, are plainly indicated. But in my experience these agents alone will rarely ever effect a cure; the prime agent is the *bougie*, either simply introduced or carrying a medication along with it. If there is one special indication for the metallic sound in urethral surgery it will be found in these over-sensitive urethræ. An ordinary steel sound which moderately, but thoroughly, fills the calibre of the urethra passed well into the bladder twice a week, and finally as often as once a day, if necessary, will be found the panacea for a multitude of troubles of a nondescript character arising from an hyperæsthetic urethra. On certain very sensitive spots along the canal it will be found well to locally medicate the mucous membrane, and for this purpose an ointment composed of zinc, belladonna and cosmoline placed in the cups of a Van Buren's cupped sound and thus locally applied, will answer very well in hastening the cure. Other agents may be used in this manner as the fancy or experience of the operator may suggest. Another excellent manner of treating these sensitive spots is by means of the deep urethral syringe.

But after all, if I were placed in the position of having to select one single agent in the treatment of this very common and annoying trouble, I should unhesitatingly select the *cold steel sound.*

Fourteen Fractures in the Same Subject.

The *Jour. Am. Med. Ass.*, Dec. 15, 1883, says that M. **Fernand Giraud** gives us, in the *Marseille Médical*, what might, on a pinch, almost furnish material for a winter's surgical course. The case in question was a man 42 years of age, and the interest in his case consists in enumerating the injuries which he received, at various times in his life, and satisfactorily recovered from:

As a zouave in Italy he received a bayonet wound in the neck, of which he carried the scar; in the left hand a sabre cut, which required the removal of the fourth and fifth fingers. A gunshot would fractured the condyle and epicondyle of the right arm, causing great difficulty in supination. On his discharge from the army he worked as a day laborer, when a bank of earth falling on him, he was taken to the hospital and found to be suffering from concussion of the brain, with fractures of the inferior extremity of the right radius; of the left leg, six centimeters below the knee; of the sternum, five centimeters from its superior extremity, so that at each expiration the lower extremity glided forward in front of the upper; of the third, fourth, eighth, ninth, and tenth ribs, about their middle, the cartilages of the fourth and fifth ribs being also the seat of a solution of continuity; and of the second and third lumbar vertebræ. After passing through a serious attack of pneumonia while in the hospital, the patient recovered, with a slight deformity of the sternum (a riding up of the fractured ends) and a numbness in the right leg, he being obliged to use a cane. There was no cough and no difficulty in respiration; the left wrist was slightly deformed, flexion and abduction of the hand being difficult. The bladder remained irritable, but there was no constipation.

His third visit to the hospital was for the treatment of a burn received in a soap factory—slight in degree, but involving a large extent of surface over the abdomen and back, resulting in a diarrhœa and death. The autopsy was most interesting in the study of the fractures of the sternum and vertebræ. The union of the sternum was so complete that an incision in the median line did not show any separation between the two fragments. The condition appeared as that of congenital deformity. The fracture of the vertebræ was one of crushing and penetration; the third lumbar vertebra had been crushed by the second, which penetrated into its tissue so that the intervertebral cartilage had disappeared, and in the midst of the solid mass formed by the two vertebræ only one line of separation was perceptible, and that on the inferior face of the superior vertebra.

The Cure of Urethral Stricture in One Sitting.

In the *N. Y. Medical Record*, December 22, 1883, Dr. George M. Schweig, after writing about and recommending the rapid divulsion of stricture, says:

Now as to results. These are, so far as I have been able to judge, absolute, perfect, and permanent. I will not say that I have never failed. I did fail in one case last summer. It was that of a gentleman with an exceptionally large urethra. The largest instrument I possessed at the time dilated to 40 only. His natural meatus was 36—urethral calibre a trifle above that. By dilating to 40 I did not obtain a *sufficient* degree of over-distention; hence the failure. The patient was anxious to leave town, and I had no time to get a specially large instrument made for him. I performed internal urethrotomy with Otis' instrument, obtaining at the time a urethra with a minimum calibre throughout of 36. The patient left for the West shortly after the operation. He returned a few weeks later for a stay of only a few days, prior to his departure for Europe. There had then been some recontraction, although not much, at the site of the stricture. He wrote to me not long since to the effect that a slight urethal discharge that he had right along still continues. I have no doubt that had I possessed at the time an instrument dilating to 44, the result in this case would have been as satisfactory as it was in all my others.

The one fixed rule to go by is to dilate to a *sufficient extent.* When it is borne in mind that the object is to destroy the continuity, or at least the resiliency of the stricture-fibres, it becomes obvious that to accomplish such a result with certainty the expansion must go, to some extent, *beyond* the normal urethral calibre; yet, if confined within proper limits, the distensible urethral walls will remain intact, and the traumatism be submucous, and limited to the unyielding stricture tissue.

I have dispensed with after-treatment altogether. An occasional bulb or sound for the purpose of observation within the first year completes the attendance, and even this I have thus far found superfluous.

Multiple Tumors of the Foot.

In the *Lancet*, December 8, 1883, Mr. HULKE publishes notes of a case of multiple tumors of the foot, which occurred in the person of a young married woman, of rather stout appearance, aged twenty-nine years. At the nail-root of the great toe there existed a swelling of moderate size, covered by hard skin. At the inner side of the second toe was a similar swelling, and a third nodule existed on the outer side of the same toe. Another tumor was present on the third toe, and this, with several of the others, showed some small purple spots as seen through the epidermis, suggestive of dilated veins in the midst of the tumors. On the fibular border of the foot a slightly prominent circular swelling was to be seen, freely movable over the bones. A similar mass on the heel reached backwards slightly beyond the middle line of the foot. These masses were distinctly movable over the deeper parts, and their cutaneous covering was rather horny in nature. Two lesser nodules were also present on the inner side of the foot. The skin over the tumors was noticed to be freely sweating, and any irritation increased the perspiration. Pressure with the finger on the external popliteal nerve gave rise to an appearance of distinct beads of sweat on the foot. The patient said that five or six years before, the tumor on the heel had begun to grow as the result of an injury. Bruises caused by the falling of heavy bodies on the foot were believed to have been the starting-point of the other tumors. A neurotic history was obtained. The menstruation was normal. The growths seemed to have sprung from the cutis vera or the tissues lying immediately beneath it. The thickening of the epidermal covering was due to pressure, and the bluish points must have been small hæmorrhages, for they did not disappear on pressure. These spots were probably accidental in origin. The growths were not of the class of angiomata, nor were they like molluscum or sebaceous wens, and were certainly not corns. Mr. Hulke believed that there was an intimate connection of the tumors with the secretory apparatus of the parts involved.

Bismuth as an Aseptic Dressing.

The *Medical News*, December 22, 1883, contains the following: In a paper, read at the Twelfth Congress of the German Surgical Association, RIEDEL, of Aix-la-Chapelle, stated that his experience with the dressing of wounds with subnitrate of bismuth supported that of Kocher, who first called attention to it. He thought that the aseptic property of the remedy was due to the incessant disengagement of minute quantities of nitric acid, through which it acted as a mild caustic upon the tissues. He had, however, found it powerless in abscesses and in erysipelas, and, in consequence of its producing adhesions, he advised that it should not be used in operations upon the chest and abdomen.

In the discussion which followed, Kocher stated that bismuth was not a germicide, but that, by forming an albuminate with the tissues, it converted the latter into a soil which was unsuitable for the development of minute organisms. Von Langenbeck, of Wiesbaden, and Hahn, of Berlin, were warmly in favor of the dressing. Like all other dressings, however, the use of bismuth is now and then followed by accidents. Kocher had known enteritis, .nephritis, and stomatitis to be set up, and Israel, of Berlin, narrated a case of extirpation of carcinomatous axillary glands, in which an acute gangrenous stomatitis developed, and small nodosities remained in the vicinity of the cicatrix, which were due to deposits of the salt.

From these observations it appears that bismuth does not sustain the hopes which were anticipated when it was first introduced. Arsenic, with which it is largely contaminated, may possibly account for the aseptic properties which have been attributed to it.

Congenital Atresia of the Duodenal Opening of the Common Bile-Duct in an Infant, Producing a Large Abdominal Tumor.

In the *Lancet*, December 8, 1883, Martin G. B. Oxley, M. D., reports this case: An infant (female), five weeks old, was brought to the out-patient department of the Liverpool Infirmary for Children with an enormously distended abdomen. "For the following notes of the case I am indebted to the house-surgeon, Dr. P. Davidson. The little patient was first seen on January 30th with a round, globular, tense swelling of the abdomen; it was dull on percussion over the right side and part of the left, except the left lumbar region, where it was resonant. A grooved needle and afterwards a Southey's cannula were inserted by Dr. Oxley into the upper line of the right lumbar region, and thirty-six ounces of bile flowed away in about twenty minutes. The child was very much jaundiced and emaciated. The urine was bile-stained and the motions like white curd. The tumor had existed from birth, but had lately increased greatly in size. February 2d: The swelling had re-appeared, though it was not so large as when first seen; sixteen ounces of bile were withdrawn with Southey's trocar and tube. The child died on February 6th. Post-mortem examination: The swelling of the abdomen was not half the size it was when first seen, but the child was greatly emaciated. There was no fluid in the peritoneum, and no general adhesions or signs of inflammation. A tumor, globular, and about the size of a cocoa-nut, was found below the free margin of the liver; it was adherent on its posterior surface to the wall of the peritoneal cavity. The duodenum coursed over its surface, and was closely adherent to it. The cystic and hepatic ducts were both patent, and opened into the tumor. The gall-bladder was of normal size, but contained no bile. No opening into the intestine could be found. On examining the duodenum the papilla indicating where the orifice of the common bile-duct usually is was easily seen, but was quite impervious. The small intestine was contracted. The other organs were healthy."

Syphilitic Neuralgia.

The *Med. News*, December 15, 1883, says that Prof. Seeligmueller read a paper on this subject at the Fifty-sixth Versammlung Deutscher Naturforscher which recently met in Freiberg.

Neuralgiæ, he said, which are certainly related, etiologically, to constitutional syphilis, are nothing like so uncommon as would be supposed on reference to the literature of the subject. He does not refer, of course, to the cases of neuralgia following syphilitic periostitis, or to the osseous pains, but only to such cases in which the pains occur along the tracks of nerves. Such cases have been observed by Fournier in the course of the supraorbital and sciatic nerves. Seeligmüller has also observed them in the course of other nerves, as the intercostals, the brachial plexus, and the great occipital.

Lately he has observed, it seems, a very typical localization of syphilitic neuralgia in the head, and certainly along nerve tracts which were formerly supposed to be cases of isolated neuralgic affections in unusual places. In these cases the pains were spontaneous, as though pressure had been made along a track two or three fingers wide, and which extended on both sides from the ear upward to the top of the head. He has further seen cases in which the pains were confined to a limited zone and to the course of sensitive nerves, as the auriculo-temporal and small occipital. There was no middle-ear disease in any of the cases.

The time at which the neuralgic affection comes on after syphilitic infection varies from two to fifteen years. The treatment is, of course, anti-syphilitic.—*Deutsche Med. Wochenschr.*, October 24, 1883.

Epithelioma of the Tonsil.

From the *London Med. Record*, November 15, 1883, we learn that this case is contributed to the *Gazette des Hôpitaux*, March 22, 1883. The patient was a man 43 years old. M. Polaillon first tied the external carotid with catgut, and then made a curved incision from the left labial commissure to join the incision of the ligature near the angle of the jaw. The inferior flap was dissected down to the bone, exposing the jaw. In spite of the ligature of the carotid artery, the arteries bled abundantly. The lower left lateral incisor was extracted, and the jaw divided by a chain-saw, first at this spot and then through the middle of the ascending ramus. The piece of bone having been removed, M. Polaillon thrust a bent trocar through the floor of the mouth, making it penetrate the skin externally a little above the greater cornu of the hyoid bone. A platinum wire was introduced in the tube of the trocar, and the latter pulled out, the wire being arranged in such a manner as to form a loop which embraced the posterior third of the left half of the tongue and the floor of the mouth, as far as the anterior section of the maxillary bone. The wire having been adapted to the galvano-cautery and put in communication with the battery, all these tissues were cut. Another loop was arranged in the same manner to cut the tissues beneath the tonsil from the base of the tongue to the pharynx, while a third wire placed behind the tonsil cut the wall of the pharynx. The left half of the soft palate was removed with the thermo-cautery. The vast wound was cauterized, and the few bleeding arteries were ligatured; the tissues of the cheek were sutured. No drainage-tube was inserted. The operation lasted 1¼ hours. The patient was fed by an India-rubber tube, and left the hospital well one month afterwards.

Two Cases of Amputation of the Penis, with Transplantation of the Urethra into the Perinæum, on Account of Epithelioma.

Dr. JOHN A. WYETH reports these cases in the *N. Y. Med. Jour.*, November 24, 1883:

The operation and the result was the same in both, which is thus described:

A ligature was applied around the organ close to the pubes, and the penis was cut smoothly off as near the ligature as was possible. The bleeding vessels of the corpora cavernosa having been tied, the scrotum was transfixed at the perinæum, and the urethral tube was dissected out from between the corpora cavernosa for an inch and a half, and then turned back through the scrotum to the perinæum, where the end was split up for half an inch on the upper wall, and the edges sewed to the incision in the perinæum.

The scrotum was carried up and sewed to the integument of the pubes, completely covering in the stump of the penis. A drainage-tube was passed through the scrotum from the upper incision to the lower projecting part in front of the urethral opening in the perinæum.

The temperature, which had been as high as 102.4° F. previous to the operation, was 102.2° fourteen hours after, and declined gradually to 99°. The wounds healed promptly, the patient was discharged May 14th, and in June he returned to his work. I saw him a few weeks after this date, and found that the glands were of normal size, his skin had assumed a more healthy color, he had gained in weight and strength, and he believed himself cured. He urinated freely through the new opening, and was comfortable.

Case of Dislocation of Jaw, Reduced After Eighteen Weeks.

Mr. C. HILTON GOLDING BIRD reports this case in the *Med. Press*, Oct. 31, 1883: The patient, a sailor, æt. 22, sustained a double dislocation of the jaw whilst gaping on May 2, 1883. Unable to obtain any relief where he was, he eventually returned to England, the dribbling of the saliva having now ceased, and the jaws being closed to about ¾-inch. On August 31st the first attempts were made at reduction under chloroform by manipulation with the thumbs in the mouth by pressing up the chin forciby, the wedges being placed between the molars, and by Nelaton's method of pressure directly upon the coronoid processes. The position of the jaw was not improved, but adhesions were broken, and the jaw rendered more movable, though still in the vicious position. A week later, September 2d, Nelaton's plan was tried again, and after two attempts the right side was reduced; the left was now easily replaced, and direct pressure on the chin backwards brought the lower front teeth into their normal position behind the upper. In a few days the patient was discharged from hospital, well. The author expressed his opinion that whilst the coronoid processes were in contact with the malar bones, yet the main obstruction to reduction lay in the eminentiæ corticulares, in spite of the high opinions that were expressed to the contrary. He believed the case of eighteen weeks' standing to be, with Pollock's of four months, the longest after injury in which reduction has been quite successful.

Hydatid of Base of Skull.

The *Lancet*, December 8, 1883, says: An interesting case of an obviously incomplete character was brought under the notice of the members of the Société Médicales des Hôpitaux, by M. BUCQUOY, on November 23d. The subject of the disease exhibited well-marked atrophy, with paralysis of the facial muscles, internal squint and anæsthesia, all on the same side of the face. There was no history of syphilis or of any other morbid antecedent. The malady had set in three years before with headache, and a tumor made its appearance at the angle of the jaw in the beginning of the present year. Many hydatid vesicles had been ejected from the mouth. The tumor was opened by M. Bucquoy by an incision, and much purulent fluid let out, mixed with hydatid vesicles. The patient still had a fistula at the angle of the jaw (the site of the incision), from which hydatid vesicles continued to be discharged at intervals. The paralysis was persistent. We regret not to be able to say which side of the face was affected, owing to the incomplete report. The case itself excited some discussion. M. Dujardin-Beaumetz asked whether the hypothesis that hydatids still existed in the brain was excluded. Owing to the spastic state of the masticatory muscles, it appears that a careful examination of the pharynx was not possible. Whatever the probabilities, it is obvious that nothing short of actual inspection of all the parts concerned could be expected to clear up every point of interest in the case.

Free Incision for Lumbar Abscess.

Two cases so treated are reported by Mr. THOMAS SMITH in the *Med. Times and Gaz.*, November 3, 1883, and he makes the following remarks:

In the first of these cases the disease seemed to be making steady progress towards a fatal termination, and it was at Mr. Berry's suggestion that the abscess was treated by freely laying open all sinuses and exposing all suppurating cavities within reach. The necessary incisions were numerous, very extensive, and very deep, and the appearance of the lumbar region the day after the operation was such as to cause some anxiety on account of the very large wound-surface. The treatment, however, was followed by no serious disturbance, and before long there was a very appreciable diminution in the amount of discharge, and a corresponding improvement in the patient's general health, which has been steady and progressive. In the second case, it was also necessary to make very extensive and deep incisions. In this patient the recovery was more rapid, and unattended with any serious symptoms. In neither case has there been any difficulty in healing the wounds, but, on the contrary, care has had to be taken to prevent too speedy a closure of the incisions. The routine treatment of lumbar abscess is not so satisfactory as to forbid attempts to improve upon it, and the progress towards recovery in the cases related above has been so much more rapid than is usual, that a further trial of the plan of free incision is quite justified.

Gastric Ulcer.

After reporting a case that recovered, Dr. W. HERBERT PACKER, in the *Brit. Med. Jour.*, December 1, 1883, says:

This case is recorded simply to add another item to the proof, if it be needed, of the efficacy of enemata (especially peptonized) in the treatment of ulcer of the stomach. From the fact that for five days small quantities of cold liquids only were swallowed, thus giving the stomach a rest as complete as possible, the patient, nevertheless, continuously becoming worse, and the ulcer apparently spreading, it is clear that treatment by enemata was the only reliable one, and it proved successful. Again, although brandy may accelerate the circulation, and perhaps by that means break down a weakly healing ulcer, there are at times, as on a certain morning in this case, when life seems to be saved by it. On the occasion to which I refer, the patient was considered by my colleagues and myself to be *in articulo mortis*, but after the administration of the stimulant by the rectum, the change was sudden and astonishing. At the same time, the digitalis and ergot were no doubt beginning to affect the system. Probably, in most cases, our difficulty was to overcome the patient's repugnance to the rectal alimentation and preventing her drinking too freely, the suffering from thirst being so great that only a strong-minded attendant prevented her drinking every fluid in her vicinity.

Metallic Suturing of Bones.

The New England *Med. Monthly*, December, 1883, says, that in the *Deutsche Med. Zeitung*, Sept. 20, 1883, Dr. CAGNOLI, of Genoa, reports some interesting cases illustrating the use of silver wire for uniting the ends of bones. He begins by quoting two cases in which foreign bodies (a piece of shell, etc.) have been carried in the tibia and femur as long as sixty years, to show that a foreign body may be imbedded in a bone without subsequent bad results.

The operations in which he used the suture were six; three of non-union, femur, humerus and lower jaw; two of recent fracture, olecranon and patella; and one of resection of part of the tarsus. Under antiseptic precautions, Listerism, the ends of the bones were exposed, the periosteum peeled back, any cartilage or projecting spiculæ removed; then, after boring holes through near the ends, they were brought together with silver wire. The periosteum was drawn down so as to cover the sutured ends and the wire, the wounds were closed and dressed antiseptically.

In every case bony union was obtained without any subsequent trouble from the suture. In one case temporary neglect of Listerism caused slight suppuration, and in one case phlebitis carried off the patient after union was complete. Cagnoli concluds with an earnest recommendation of the more frequent use of this operation.

Surgical Treatment of Fracture of the Skull.

The vexed question of trephining for fractured skull is thus discussed by Dr. W. W. CLEAVER in the *Med. Herald*, December, 1883:

It seems to me perfectly clear that in skull fractures, with decided depressed bone, we should operate; and if there be detached fragments the operation should be had at once, without waiting for the development of very dangerous symptoms, for that would lessen our chances of success. It is equally clear that we should operate for the remote troubles from fracture, if we can locate with certainty the seat of the fracture. A few years ago a gentleman died suddenly in this vicinity. Dr. Hodgen and I made the autopsy. When we raised the calvarium there was attached to the skull cup a tumor as large as a walnut, which left its bed in the brain. We did not, at the time, think to examine the skull for a fracture, but I afterward recollected that the man had received a heavy blow upon the top of his head, with a chair, that felled him to the floor and doubtless fractured the skull, and this tumor sprang from that point.

The expectant plan, so rife to-day, of treating diseases, is all well enough, save in cases of real danger. But when the mental or physical life is in imminent peril, it behooves as, as intelligent and faithful physicians, to act promptly and sometimes heroically.

Notes on the Ophthalmic Conditions of Deaf Mutes.

Dr. Charles G. Lee, in the *Brit. Med. Jour.*, December 15, 1883, says: My connection with the Liverpool School for the Deaf and Dumb impressed me with the difficulty under which the deaf mute who might be the subject of any one of the numerous forms of defects of vision would be placed, through his inability to appreciate and communicate his sense of deficiency to his teacher or guardian. Influenced by this thought, and at the suggestion of Mr. Edgar Browne, I made an examination of more than a hundred children in our institution, and now lay the results before you, trusting that, although I may have nothing either startling or novel to communicate, at least my remarks may serve to draw more particular attention to this interesting class of patients.

Of a total of 110 thus examined, 64 were found to be emmetropic; of the remaining 46, there were 30 hypermetropes, 3 myopes, and 2 antimetropes. Eleven were found to have affections of the eye other than errors of refraction, viz: corneal leucoma, 2; cataract, 2; choroiditis, 1; retinitis pigmentosa, 6.

The color-vision, tested by Holmgren's wools, in fifty-eight of the elder children, afforded surprisingly good results, there not being a single case of complete achromatopsia. The slight deficiency present was confined to boys: four failed to distinguish between blue, purple, and violet; and one mixed up green and blue with violet.

Of the whole number (110) examined, in only two cases did I meet with definite signs of hereditary syphilis, and in both cases the notched and pegged central incisor teeth were the only manifestations present. There were no cases of interstertial keratitis. It is right, however, to mention that in six children secondary dentition had not yet occurred. While speaking of teeth, I may observe that, in a case of zonular cataract, to which I shall again refer, the teeth had that rough, uneven surface, devoid of enamel, that has been aptly described as rocky.

Such being the general results obtained, I will now notice one or two points that appear to suggest themselves, a little more in detail.

You will doubtless be struck by the number of cases of retinitis pigmentosa—6 in 110. Of a total of 6,240 new eye-cases that attended the Liverpool Eye and Ear Infirmary in 1881, only three cases of this disease are enumerated. No one will, I think, question the peculiar liability of deaf-mutes to this affection, although the causes of the susceptibility may be more debatable. In Hartman's treatise on deaf-mutism, translated by Dr. Cassells, the proportion of cases is variously stated; Liebreich having found it to be 5.8 per cent., while Wilhelm, of

Madgeburg, found only 1 per cent. From this, my proportion—exactly 5 per cent.—will appear high. As a partial explanation, I must observe that my six cases represent only four families. It is a matter of satisfaction to me that five of these children were examined by one or more of my colleagues of the Eye Infirmary, and my diagnosis thereby confirmed. The ages of these children ranged from eleven to fourteen, and I have had no opportunity of observing a case at an earlier period of life.

Although from the fact that each one of these children was congenitally deaf, the influence of consanguineous marriage in the parents might be presumed to be a predisposing cause to the production of retinitis pigmentosa; that it is not a *sine quâ non* is evident, if we may accept the history furnished by the parents themselves; for, in two of the four families represented by these children, the parents were entire strangers before marriage; in the other two, however, they were first cousins.

Though not bearing strictly on my subject, I may remark that the influence of consanguinity in parents, in its relation to deaf-mutism, appears much less than my preconceived ideas would have led me to infer; for in fifty-one cases of congenital deaf-mutism, only six are said to be the offspring of previously related parents.

However, to return to our retinitis cases, in not a single instance were there any signs of congenital syphilis, and in each one the affection was symmetrical, so affording a sharp contrast to the solitary case of choroiditis, in which the lesion was confined to the left eye.

Ten years ago Mr. Jonathan Hutchinson drew attention to this peculiarity of the disease; for, in the seventh volume of the *Ophthalmic Hospital Reports*, he there states: "I should consider any marked tendency to asymmetry as a suspicious fact in the direction of a remotely syphilitic cause."

An attempt to take the field of vision with McHardy's perimeter met with only very partial success, only two of four in which a trial was made being possessed of sufficient intelligence to understand what was required of them. The charts I hand round indicate considerable limitation of the normal field; and reliably represent the peripheral field of a brother and sister, whose parents were entire strangers before marriage, but in whose peculiar greyish-white discs, contracted retinal vessels, and pigmented patches, unmistakable evidence was borne to the presence of this disease.

I was unfortunately prevented from carefully estimating and correcting the amount of ametropia that existed in the thirty-five children so affected, in consequence of the advent of the midsummer vacation.

The thirty hypermetropes included only two cases of convergent strabismus; one hypermetropic child was, however, particularly interesting, who, able to read $\frac{20}{30}$ and Jäger 1 at ten inches, and with about three dioptres of uncorrected hypermetropia, had very marked hyperæmia of each optic disc; and, inasmuch as there existed no symptoms, either local or constitutional, of any other affection, I am obliged to find the cause in her ametropic condition.

The three cases of myopia require no further comment, save that, in every one, there existed a posterior staphyloma—a condition that would, I presume, be predicted in patients that had attained thirteen years of age with a moderately high degree of uncorrected myopia.

A child, with remnants of persistent pupillary membrane, is mentioned as a clinical curiosity rather than from its being in any way peculiarly affected in virtue of its deaf-mutism.

I would venture to hope that, although my observations have been made on a comparatively small number of cases, and in spite of their crude nature, at least some questions of interest may have been opened.

For example: Seeing that cases of pigmentary degeneration occur frequently in these children, and, as my cases would seem to indicate, chiefly in those of a congenital origin, may we seek for a common cause, both for their optical and aural deficiency, in some developmental deficiency or error?

Again: What may be the prognosis of these unfortunate cases? Is it always to be a hopeless progression from bad to worse; or may we hope, by any therapeutic or hygienic aids, at least to preserve a minimum of eye-sight? Cases illustrative of the hitherto unfavorable tendency are, doubtless, known to all. A brother of one of the children included in our six cases, and a few years his senior, is, I am informed, almost totally blind from this malady.

It may not be uninteresting to consider the reason why asthenopic troubles have not been complained of by any of these ametropic cases; and one I have already suggested in my opening remarks, viz., their inability to express or define the discomfort they felt; while their teachers, accustomed to exercise extreme patience, would scarcely notice the extra difficulty under which they labored. I find another reason in the system pursued in their education; for while, in ordinary elementary schools, children commence at five, or, it may be, earlier, to tax their accommodation and convergence, in deaf and dumb institutions, on the other hand, the education does not begin until seven, and even then there is comparatively little strain put upon the intrinsic muscles of the eye, much of their school-time being occupied in acquiring the names of such every-day objects as balls, tables, tops, etc., things that the hearing child learns almost instinctively. This cause will also account for the absence of more cases of convergent strabismus; a deaf-mute at seven being optically, at least, only as old as a hearing child at five. And it would afford me little or no surprise to learn, were statistics forthcoming, that these children, instead of producing an alternating squint at five or seven years, the usual time, according to Donders, failed to do so until nine, or even later.

In conclusion, I would express the hope that my remarks, fragmentary though they have been, will have sufficed to indicate that these unfortunate children, although apparently uninteresting, and at times unintelligent, are not devoid of peculiar conditions that would amply repay a more systematic observation than has hitherto been attempted. Particularly I would venture to suggest to gentlemen who may be connected with deaf and dumb schools, the advisability of making, or causing to be made, a careful ophthalmic examination of each new pupil; that any visual deficiency be noted, and, if possible, remedied, so that the child may be enabled to commence its studies under circumstances as little unfavorable as may be, seeing that it is already all too heavily handicapped for its life-race. One example may serve to emphasize this remark, and I have done. In the course of the examination, I discovered a boy, aged 11, suffering from an advancing lamellar cataract in each eye, striving to compete with his class-mates in their studies, and with how much success you will easily imagine, whose affection had not been even suspected by teacher or parent.

Nerve Stretching.

Speaking of this subject the *Brit. Med. Jour.*, Dec. 15, 1883, says editorially: In the Bradshaw Lecture, which is published in our present number, Mr. Marshall has shown himself to be a strong advocate of the new operation of nerve-stretching for the relief and cure of pain. British surgeons are ever cautious about introducing novel operations, especially those which, like nerve-stretching, are largely based upon theoretical grounds. In February 1881, we recorded a case where Mr. Marshall stretched the great sciatic nerve on the right side, in a man suffering from locomotor ataxy. Nearly three years have passed by, and nerve-stretching still has the high sanction of the present President of the Royal College of Surgeons of England. The risk attending an operation is the first question discussed by competent critics; Mr. Marshall believes that the dangers of nerve-stretching are comparatively few. The lecture included a very able review of the scientific aspect of the subject. It was shown that a long piece of nerve will stretch more, relatively, than a short one, according to a law observed in other extensile tissues. A stretched nerve is now known to recoil, and the extensibility of a living nerve is greater than that of a dead nerve, a fact ever to be borne in mind by experimenters. Nerves bear a far greater amount of stretching than would at first sight be supposed; the slender branches of the fifth cerebral nerve will bear a weight of from six to twelve pounds before breaking, whilst the great sciatic will bear about one hundred and eighty pounds—though the lecturer did not recommend that a force at all approaching this should be employed in practice. These facts have a highly practical bearing, as an operator, especially if inexperienced, has a natural dread of breaking a nerve which he is stretching, and, therefore, is liable to confine himself to subjecting the nerve to a degree of tension insufficient to produce good results, and, indeed, capable of causing evil effects. A diseased nerve, he is aware, bears less stretching than a healthy one. But, as Mr. Marshall demonstrated, a personal experiment with the dynamometer is sufficient to show any operator how difficult it is to apply to a nerve a weight of thirty pounds.

The lecturer also dwelt on the microscopic appearances of stretched nerves. In specimens prepared by Mr. Horsley, the fibres of the nerve-sheath or epineurium, naturally wavy, appear quite straight, the bundles of tubules are compressed, and the spaces, probably lymphatic, between the perineurium and the fasciculi which it invests, are obliterated. On examining an individual tubule from a stretched nerve, it was found that the natural segmentation of the medullary sheath gives way to an abnormal or irregular breaking-up of that sheath, that sometimes the tubule gives way, and more rarely the axis-cylinder gives way. Degenerative changes follow, and involve the vessels and lymphatic elements in the nerve, external to its tubules. Regeneration ensues. Passing to the physiological effects of stretching, it is found that the motor and sensory properties of a nerve are both diminished, but the sensory is the most affected. Slight tension increases the irritability of a nerve, stronger tension diminishes and extinguishes it, a fact of great practical import. The stretching of a nerve is not mechanically transmitted to the spinal cord; it may, in a manner explained by the lecturer, shake the cord, but even then no change of tension is found in the intrameningeal part of the nerve, nor any in the tubules within the cord.

Turning to practical results, Mr. Marshall considered that the fact cannot be doubted that nerve-stretching does and will cure neuralgia. The explanation of this good result lies, to a certain extent, according to the lecturer, in the stretching and partial destruction of the *nervi nervorum* in the sheath of a nerve. Mr. Marshall is a believer in the existence of these nerves that supply nerves. They are liable to irritation at certain points where the nerve to which they are distributed passes round a bone or out of an osseous foramen; hence some of the phenomena of neuralgia may be explained, for, were the tubules of the main nerve the seat of that disease, the pain would hardly be so localized, but would be transferred by the consciousness to the extremities of the tubules. The value of nerve-stretching in tabes is less easy to comprehend. The disease is central; and, as experiments above alluded to have shown, the substance of the spinal cord is not affected, mechanically, by the tension, but it affects the ganglia of the cord, and produces an excitation of the vaso-motor centres, or trophic centres; and to the reaction that takes place in the changes thus produced in the nerve-elements, we must look for the explanation of the benefit obtained from nerve-stretching in cases of tabes or locomotor ataxy.

Mr. Marshall, towards the conclusion of his lecture, spoke of the stretching of nerves by flexion of a limb without the use of the knife, as advocated by Trombetta and Billroth. The actual stretching in these cases has been proved by experiment, and very satisfactory results have been obtained.

The Bradshaw Lecture at the Royal College of Surgeons of England, in 1883, is not only an eloquent discourse, but a most valuable essay, wherein an operation still new to surgery has received the approval, on grounds publicly demonstrated, of a leading metropolitan surgeon.

Two Cases of Fractured Patella, Treated by the Wire Suture.

Mr. Walsh reports these cases in the *Brit. Med. Jour.*, December 15, 1883:

Case 1.—Harriet E., aged 35, was admitted into the Infirmary on September 5, 1883. Six months before, she fell, and fractured her right patella; she was treated in hospital, and was sent out at the end of three weeks with plaster-of-Paris bandages applied, so as to keep the joint stiff. These were from time to time renewed, as she was quite unable to move the limb without.

When admitted on September 5th, the seat of fracture was easily made out. It was transverse, with about one inch of separation. On removing the plaster-of-Paris bandages, she was quite unable to raise the heel from the bed; there seemed to be fair ligamentous union.

On September 6th, the patient being under ether, Mr. Walsh proceeded to operate. The operation throughout was performed under strict antiseptic precautions. A semilunar incision was made over the joint, and the patella exposed. The fibrous band between the fragments was cut through, and the two pieces separated from the bones beneath, to which they were adherent by strong fibrous bands. There was a considerable amount of hæmorrhage from these adhesions, many points being tied with catgut-ligatures. A very thin piece of bone was then sawn off each fragment; and two holes were drilled in corresponding positions in each, and two pieces of strong double wire passed through. These were twisted, and the ends laid flat on the bone. The fragments came well together in the centre, but there was half an inch of separation on the outer side. The remaining points of hæmorrhage in and around the flaps were then tied with fine catgut, and two pieces of drainage-tube inserted, one on each side. The wound was then stitched up with catgut-sutures, and dressed antiseptically. The limb was placed on a back-splint, reaching well up to the buttock, and fixed on with plaster-of Paris bandages, rendering it perfectly immovable. The temperature on the evening after the operation was 99.2°.

On the third day after the operation, the wound was dressed, and the drainage tubes removed. It was dressed again three times, at intervals of a week; on the last occasion, the incision was quite healed, not a drop of pus ever showing itself.

The temperature remained normal after the third day, and there were no signs of constitutional disturbance.

The patient had an attack of eczema of both legs, about the fifth week, which prevented her from getting up so soon as she would otherwise have done; however, she got up in the seventh week, and has continued to walk about ever since. There is very little power of flexion of the knee-joint; this is, no doubt, owing to the many adhesions beneath the patella.

CASE 2.—Thomas B., aged 14, was admitted on the evening of September 13th, having fallen from a window upon his left knee. On admission, the left knee-joint was very much swollen and tense, and a fracture of the patella could easily be detected, the exact nature of which was difficult to make out. The patient was put to bed, and some cooling lotions applied.

September 14th. The patient being under ether, Mr. Walsh performed, under strict antiseptic precautions, the following operation: A semilunar incision was made over the joint and its cavity opened; a very large quantity of blood and pus was evacuated, and the fractured bone exposed. It was found to be broken into three pieces, two upper fragments and one lower, which was very small, and to which was attached the ligamentum patellæ. The case seemed to be almost hopeless, the lower fragment being so small that it was thought to be almost useless to deal with it in the way proposed. There was no great amount of separation of the fragments. However, a hole was drilled through each upper fragment obliquely, and through the lower one almost transversely, in this case going through part of the ligament. One piece of thick silver wire was passed double through the whole three fragments, and all were easily brought together, and the wire twisted. The joint was well cleaned out with a 5 per cent. solution of carbolic acid; a drainage-tube was inserted at each side, through openings made at the most dependent points, and the skin-wound brought accurately together with catgut sutures. There was very little hæmorrhage, a few small vessels being tied with catgut-ligatures. The wound was dressed antiseptically, and the limb placed in a back-splint reaching up to the buttock, and fixed with plaster-of-Paris from the foot to the knee, and also on the thigh. There was no shock following the operation. The evening temperature was 99°.

On September 18th, four days after the operation, the case was dressed, and the drainage-tubes removed. The temperature rose to 101° on the day after the operation, and then gradually fell to normal. It was dressed again on the ninth and sixteenth days. On the latter date, the whole of the sutures were removed, and the wound was quite healed, not a drop of pus showing itself.

The patient was allowed to get up six weeks after the operation, the splint was removed, and he began to walk about at first with crutches, but soon he walked without any artificial aid. He now walks about easily and well, and can flex the limb very considerably, though he is not quite able to kneel. The wire suture is still in the joint.

The Presence of Bacilli in Surgical Affections of Tubercular or Scrofulous Origin.

The *Med. News*, December 15, 1883, says: During the current year, as we learn from the *Fortschritte der Medicin*, Nos. 9 and 17, the *Journal de l' Anatomie*, No. 4, and the *Revue de Chirurgie*, No. 11, SCHUCHARDT and KRAUSE, SCHLEGTENDAL, CORNIL and BABES, and BOUILLY, have made numerous researches which demonstrate the presence of the bacillus tuberculosis in certain affections that were manifestly tubercular, or were suspected to be of that nature. Of the lesions, the most frequent were cold abscesses, strumous synovitis, and tubercle of the bones, lymphatic glands, and the skin. The cases examined included also at least two of fungous synovitis of the sheaths of the tendons, and one each of tubercle of a muscle, of the tongue, of the epididymis, of the testicle, and of the female genital organs.

In all of the minute examinations, with the exception of those of Schlegtendal, bacilli were discovered; but in the majority they were so few and so difficult of detection, that as many as three in the interior or vicinity of a giant cell were quite uncommon. In the case, indeed, of a cold abscess of the thigh, at least twenty sections of the limiting membrane were required to discover two of the organisms, and in only one example out of the forty recorded by Schuchardt and Krause were ten met with on the first section.

From their rarity and the difficulty of their detection, erroneous conclusions may be drawn as to the true nature of the lesions. More than this, their number does not correspond with the gravity of the affection. This point is well illustrated by one of the cases of Bouilly, in which, despite the fact of extensive tubercular deposits in various organs and tissues, only two bacilli were found in a pre-sternal cold abscess. It should, however, be remarked that these organisms may be detected in the pyogenic membrane when their presence cannot be shown in the pus of a tubercular abscess. Their association with fungous synovitis proves, moreover, the tubercular nature of that affection, a fact which had been surmised by Trelat, Terrier, and other observers.

The investigations of Schlegtendal were confined entirely to opened and closed collections of pus in the bones, joints, glands, and soft tissues. Of the 100 cases, which included 520 preparations, 26 were attended with positive and 74 with negative results. Of 40 examples of unopened abscess, bacilli were found in 17, while of 60 examples of fistules and ulcers, they were present in only 9. In these statistics are included, however, some cases which certainly have nothing in common with tubercle, as, for example, 1 of abscess from caries of a tooth, and 3 of chronic ulcer of the leg. The examinations, moreover, appear to have been hastily conducted, since in at least one-half of the negative results only two preparations were inspected.

The latter objection becomes the more serious when it is remembered that a negative result is only declared after at least four examinations of the sputum of phthisis pulmonalis, in which bacilli are far more abundant than in pus. Had more frequent examinations been made, particularly in the cases in which there were also tubercular lesions of the lungs and other organs, it is highly probable that the positive results would have been materially increased in number.

The absence of bacilli from pus appears to support the view that tubercle alone does not cause suppuration, but that the pus found in the immediate vicinity of tubercular deposits is due to some other factor. Hence their presence is merely accidental, and denotes possibly the breaking down of tubercular tissue and its diffusion in the purulent collection.

Treatment of Fistulæ of Steno's Duct.

From the *Med. News*, December 22, 1883, we learn that Dr. **Edouard Martin** has recently published a clinical study of this affection, in which he draws the following conclusions:

1. From an etiological point of view, fistulæ of Steno's duct may be classified almost equally as traumatic fistulæ and pathological fistulæ following abscess and inflammation.

2. Their treatment varies a great deal according to the indications; it is therefore a grave error to choose any one procedure to the exclusion of all others for a distinct application in these cases.

When the anterior extremity of the canal is permeable, cauterization, aided in some cases by dilatation, may effect a cure. When the anterior extremity is closed, it is necessary either to produce glandular atrophy by compression, or by evacuating the saliva externally, a procedure not without inconveniences, though it has given good results in the hands of Louis, Borel, and Julliard, or else to make an artificial duct. For this purpose Martin believes that simple puncture with a large trocar, followed by the introduction of a large drain left *in situ* for a few days, is sufficient in the majority of cases to insure the permeability of the artificial duct. Should this show a tendency to close up, a canulated sound may be passed, or the duct may be dilated by laminaria. Deguise's method of double puncture, with Béclard's, Gosselin's, Trélot's, or Richelot's modifications, should be reserved for exceptional cases.—*Revue de Thérap.*, Nov. 1, 1883.

Tubercular Disease of the Tongue.

In the *Med. Times and Gaz.*, Dec. 8, 1883, **Mr. Barker** publishes notes of the case of a man who, always delicate, had been ailing a year; he had a sore on the tongue from holding tacks in his mouth—at first only a fissure near the tip of his tongue. Five months previously he had had hæmoptysis, and also hæmorrhoids. He got worse, and was admitted into the hospital five weeks later. His tongue presented a shallow ulcer near the tip, and a second one further back. There were signs of phthisis in both lungs, and also distinct ulceration of rectum. Anti-syphilitic treatment did no good; the ulcer spread, and invaded about a third of the tongue; gradual exhaustion and death. At the post-mortem, lungs and intestines typically tubercular; larynx and trachea healthy; anterior third of tongue ulcerated; margins of ulcer abrupt, surface uneven, base not indurated; glands beneath jaw not enlarged. Microscopically, there were collections of minute cells in groups in the base of the ulcer, with some giant-cells. The appearances were similar in sections taken from the intestinal ulcers. Tubercular ulceration of the tongue appeared to be very rare in this country; only one case (that of Dr. Hadden's, last year,) was to be found in the *Transactions* of the Society, and a living specimen had been shown by Mr. Stanley Boyd; also two cases were recorded by Mr. Bryant in *Guy's Hospital Reports*. Abroad, the subject had attracted much more attention. The affection was very important, owing to the necessity for early surgical interference.

Case of Calculus in the Nostril.

Dr. W. E. C. NOURSE reports this case in the *Brit. Med. Jour.*, October 13, 1883: I was requested to see a lady, about twenty-three years of age, who was annoyed by excessive fœtor of the breath, and who fancied there was something in the left nostril. She looked thin and sallow; there was no discharge from the nose; nothing could be seen in it, and at first the probe detected nothing. But on directing the instrument well down to the floor of the nostril, a hard movable substance was touched. Owing to its size, its extraction was difficult, but it was got out with no other damage than some abrasion of the mucous membrane. The fœtor of the breath passed off in a few days, and the patient had no further trouble. The substance proved to be a calculus; its length was almost one inch, its breadth eighth-tenths of an inch, its thickness six-tenths. It required many washings to free it from bad smell. When thoroughly dry, it weighed forty-six grains. Touched with dilute acid, a few minute bubbles of gas were disengaged. It was of a light drab color, and could be broken by moderate force. In the centre was a fragment which appeared to be of bony structure. Cases of nasal calculi are mentioned in Ranking's *Abstract*, vol. ii. 106; vol. vi. 132; and vol. xxxi. 158.

Aneurismal Dilatation of the Radial Arteries.

In the *Brit. Med. Jour.*, December 8, 1883, Mr. SYMONDS related the symptoms of a case of aneurism of the radial artery, secondary to fracture, with suppuration; amputation was performed. The radial artery was surrounded by sloughing tissue, and dilated at two points into aneurismal pouches, partly filled with coagula; the wall of one pouch was perforated. The inter-osseous trunk was softened and dilated at one spot. Microscopical examination showed that there was an accumulation of inflammatory products in the middle coat. As a result of the injury, a diffuse arteritis had been set up, attended with the formation of pus. In a second specimen from another case of suppurative arteritis, the pus was collected in the middle part of the middle coat. The wall of the artery was unusually thick and rough, owing to the collection of the inflammatory products in the middle coat. He thought that suppurative arteritis might be the consequence of the injury directly inflicted on the vessels, or might be produced by extension from the cut and twisted or tied end. He believed that secondary hæmorrhage was due to this suppuration, and not to the non-formation of a clot.

Resection of the Ankle Joint.

Dr. John Mulvany thus writes to the *Brit. Med. Jour.*, December 15, 1883: My present purpose, is to show that the best results may be obtained even when the disease has passed beyond the limits of the joint and invaded the tarsus, at least so far as partially to involve the scaphoid; for though, on the occasion in question, (referring to another case) more bone probably was removed than in any similar instance—for a large portion of the scaphoid, half of the os calcis, the astragalus, internal malleolus, and a slice off the tibia, were taken away—still the patient was able, in ten weeks, to get about with the help of a stick; and in seven months and a half the ankle was strong, and, strange to say, possessed considerable and increasing mobility. He walked five miles to show it to me.

The incisions practised by Dr. March were to a great extent similar to those employed in this case- He says: "A curved incision, three to four inches in extent, is made along the posterior border of the external malleolus and the outer border of the foot; from the middle of this, which corresponds with the tip of the external malleolus, another incision is carried forwards as far as the tendon of the peroneus tertius. On the inner aspect of the joint, a somewhat shorter but similarly curved incision is made along the posterior margin of the internal malleolus and inner border of the foot. If necessary, from the centre of this an incision extends forwards to the inner edge of the tibialis anticus tendon." In my Canadian patient, an external incision was not required, as the external malleolus had been removed on a previous occasion; but, had not this been the case, "it might," I remarked, "be removed by a vertical incision, turning aside the peronei and applying a bone-forceps and knife." The inner incision, from one inch above the joint downwards, in front of the fibula (in front, on account of a sinus) and malleolus, and forwards and inwards to the base of the metatarsal bone of the great toe, having a slight concavity inwards, a small incision was now made inwards over the tip of the malleolus, and another outwards. Owing to the swollen condition of the parts, extensive gaping resulted, and a few touches of a small knife effected sufficient room to permit removal of the diseased bone by slow and cautious manipulation. In the further steps, the ordinary custom or procedure was departed from. The tibia was not touched until, by the removal of the astragalus and other diseased structures, its end was rendered easily accessible, and a portion removed with a Key's saw, so as to disturb its anatomical contiguities to the smallest possible extent.

I may add that, at the time of operation, this patient was suffering from incipient phthisis, the symptoms of which passed off, and did not reappear for several years afterwards; but I have lately heard that he died a few years ago from "consumption."

Operations for Bronchocele at Tubingen.

The *Med. Times and Gaz.*, October 27, 1883, tells us that in Prof. P. Bruns' *Mittheilungen a. d. Chirurg. Klinik zu Tübingen*, Dr. Fischer states that the Professors Bruns(father and son) have performed the extirpation of 38 non-malignant bronchoceles, and of five malignant. The former occurred in 36 individuals (25 males and 11 females), of whom 12 were not more than twenty years of age. In 11 cases the bronchocele was parenchymatous, in 19 parenchymo-cystic, and in 8 unilocular—iodine injections having been tried in vain in these last. Of the 38 operations, 6 (15.8 per cent.) proved fatal—in 3 from septicæmia, 1 from tetanus, and one from pleuritis and pericarditis, while in 1 the operation could not be completed, the patient dying thirty-two days after from some unascertained disease. In 3 cases the number of ligatures rendered necessary amounted to 120! Tracheotomy had to be resorted to only in 2 cases, once before and once during the operation. In 3 cases narrowing of the trachea had taken place from the compression, but in none had its cartilages undergone softening. During the healing process, secondary hæmorrhage occurred in 7 cases. Of the 5 operations for malignant bronchocele, 2 terminated fatally. The disease was cancerous in 4 cases, and sarcomatous in one. In one of the cases of carcinoma the patient lived for three years and a quarter, the longest period that has been survived after the extirpation of a malignant bronchocele.

Malignant Tumor or Tuberculosis of the Testis.

Mr. Butlin, in the *Medical Times and Gazette*, records two cases where tuberculosis of the testicle was mistaken for cancer. In both cases there was a rapid enlargement of the body of the testis, perfectly smooth, oval, and firm, without any sign of inflammation, characteristics which pointed to the presence of a malignant tumor rather than to a tuberculous testicle. Mr. Buntlin, however, points out that the absence of elasticity is a great point in favor of the tumor being non-malignant. Another feature worthy of notice is, that in both cases the tumor was punctured, and yielded bright blood, which very quickly ceased to flow, and the hemorrhage was not subsequently renewed. In conclusion, the author remarks that the diagnosis in a difficult case will often rest chiefly on the importance attached to one or two symptoms, among which sufficient weight has not been given to the unequal consistence, and especially to the elasticity of the tumor.

A New Form of Eye-Bandage.

The *N. Y. Med. Jour.*, November 10, 1883, says that Peschel ("Arch. f. Augenheilk.," xii, 4) has invented a new variety of bandage for the purpose of applying a continuous bath to the eye, hoping thus to obtain as complete disinfection as possible. He has a sort of rubber mask constructed, which can be applied water-tight to the face below the eyes, against the temples, and over the nose, by means of a flexible metallic bow or arch, and an air-bag beneath it. This mask is open upward toward the forehead, and in a sitting posture the patient can thus keep the eyes continually immersed. This mask-bandage is constructed of three shapes: for the right eye, for the left eye, and for both eyes. Since September, 1882, Peschel has employed the apparatus in a great many cases, partly to destroy certain organisms already present, and partly to prevent their introduction from without; and the results have been most satisfactory.

Remarkable Case of Hernia.

The *Lancet* November 10, says Mr. Banks recently operated in a case of ventral hernia. The patient was a middle-aged collier, who could not work on account of it, so much did it inconvenience him. Mr. Banks cut down upon the sac, and, carefully dissecting it out, proceeded to open it; he then found a great mass of omentum, most of which was adherent. It was carefully separated and ligatured in several pieces with catgut and silk thread. Over three-quarters of a pound was cut away and the pedicle dropped into the abdomen. The sac was tied with catgut and cut off close to the orifice. By the fifth day the external wound was sound, without a drop of pus, and the patient has not had a rise of one degree in temperature. Mr. Banks hopes that with an abdominal belt and pad further protrusion will be avoided.

Does Enlargement of the Prostate Render Erection of the Penis Impossible?

Dr. CHRISTOPHER JOHNSON discusses this question in the *Maryland Med. Jour.*, November 17, 1883, from its medico-legal aspect, in reference to the case of a man of sixty-two, who was charged with criminal intercourse, and where the defense endeavored to prove that the crime charged was an impossibility, because the enlarged prostate from which the man was suffering would exert such pressure on the erectores penis as to draw the organ downward, and render coitus impossible. The case was never settled judicially, owing to the death of the defendant, but Dr. J. concludes that the assumption of prevented erections of the penis by dragging down of the ischio-cavernosi muscles through prostatic hypertrophy is at variance with pathological experience, and therefore untenable.

A Handy Way to Perform Venesection.

Dr. R. J. LEVIS, in the *Polyclinic*, says: The operation of venesection would probably be more frequently resorted to when needed, if a proper lancet, in perfect order, were at hand; but the critical time for relief of an actively congested or inflamed lung or brain is sometimes allowed to pass, for want of a ready and certain method of opening a vein. I once, on a pressing occasion, bled a patient at the bend of the elbow, with perfect ease and precision, with but a blunt-pointed and dull pocket knife, by resorting to a simple, convenient expedient. Having put on the usual constricting bandage to distend the veins, I first transfixed the most prominent vein with a fine needle. Thus held securely, it was very easy, even with the dull knife, to cut a valvular incision into the vein, and the blood flowed freely.

Removal of a Piece of Steel from the Vitreous by the Electro-Magnet.

In the *Med. Press*, October 24, 1883, Mr. S. SMITH related particulars of this case: a young man, who, whilst striking a wedge in a coal pit, had been hit with a splinter in the left eye. The accident occurred three weeks before he came to the infirmary. A piece of steel was discovered with the ophthalmoscope, moving about in the vitreous; it had passed through the cornea at its lower margin, and had also penetrated the lens, of which there was slight opacity. It was immediately removed through a sclerotic wound by means of the electro-magnet needle. At the time of exhibition of the patient, twelve days after the operation, the eye was quiet and $V = \frac{23}{40}$. The fragment weighed .0046 of a grain.

Case of Syphilitic Infection of a Pregnant Woman.

The *London Med. Record*, December 15, 1883, says : Dr. ARNING relates (*Viertelj. für Derm. und Syph.*, Heft i., 1883) the following case, in which a child was believed to have contracted syphilis from its mother after birth. Mr. M. married his present wife four years ago. At the end of the first year after marriage, a healthy child was born. In the winter of 1880–81 a second child died at full term, during parturition, from strangulation of the umbilical cord. In the summer of the latter year the husband returned home with recently-acquired syphilis and affected his wife, who was in the fourth month of pregnancy. She subsequently showed secondary symptoms, and was treated by a mild course of mercurial inunction. On October 25th, a vigorous child was born at full term, and was suckled by its mother, at first at both breasts but afterwards at the right breast only, on account of fissures of the left nipple. The child was brought to the policlinic when three and a half months old. The mother stated that four weeks previously she had noticed a sore place at the left angle of the child's mouth, which was followed by an eruption on the buttocks. On examination, an ulcer was found on the upper lip, and the whole lip was hard and infiltrated. The submaxillary glands were greatly swollen. On the body was a papular syphilide, and there were papules about the anus and vulva. Under mercurial inunction, the sore on the lip healed and the rash disappeared. A month later there was periostitis of the left forefinger, and the child finally died of convulsions.

Heat and the Simple Chancre.

In the London *Med. Record*, December 15, 1883, we read that M. AUBERT states (*Lyon Médical*, No. 32, 1883) that from experiments made by himself he has proved that the virus of the soft or simple chancre is rendered inert by exposing it for some hours to a temperature somewhere between 37° and 38°C (98°.6 to 100°.4 F.). but the exact degree of which he has not yet determined. From this result of his researches, M. Aubert attempts to explain the many variations and complications that are observed clinically during the course of soft chancre. For example, he would account for the limitation of bubo to the most superficial glands and the non-penetration of the virus into the system generally, for the short duration of chancres of the cervix uteri, etc., by the fact of the higher degree of temperature of the deeper parts and organs of the body. Again, the favorable influence sometimes noticed in a case of phagedæna on the occurrence of erysipelas, and the destruction of the chancrous virus by gangrene are, according to M. Aubert's theory, to be explained by the local and general rise of temperature accompanying those affections. In the treatment of soft chancres, therefore, M. Aubert tries to imitate as closely as possible the rise of temperature observed in the diseases just mentioned—that is, to raise the local and general temperature of the body to a point above that necessary to destroy the virulence of the chancre ; and this he accomplishes by the old plan of immersion in a hot water bath.

Plastic Operation for Penile Fistula.

In the same journal, Mr. **Clutton** remarked on the extreme difficulty of closing penile fistula, and discussed the various methods of dealing with the urine whilst the wound made by the plastic operation had time to heal. He maintained that, by opening the urethra in the perinæum, and keeping a catheter in the bladder through this opening, the fistulæ were given the most complete rest attainable, and that the healing of the wound was thus almost certainly ensured. The perineal wound did not, he thought, in any way increase the risk, but was a much less harmful proceeding than the constant passage of a catheter. He related an interesting case which supported this view.

Aneurism of Abdominal and Superior Mesenteric Arteries.

Dr. **Trenholme** reports this case in the *Canada Med. Record*, November, 1883:

The patient, aged 49, a printer by trade, had been brought before the clinical class in the summer session on two occasions. He presented a large aneurism in epigastric region, which projected as a prominent tumor and had considerable mobility. The only symptoms were pain in the back and loins and distress after eating. Had noticed the pulsation for a year, the tumor for only two months. Palpation revealed a curious sausage-like projection from the main tumor, freely movable, and feeling like a dilated vessel.

Death took place suddenly from rupture of the sac into the peritoneum.

Reproduction of First Phalanx of Index Finger.

In the *Boston M. and S. Jour.*, September 27, 1883, Dr. **O'Leary** reports the case of a boy with lacerated wound of the index finger and compound fracture of the first phalanx apparently demanding amputation, but as it was not convenient to etherize the patient, treatment at the hospital was recommended. The boy, however, did not go to the hospital, but reappeared three weeks later with bare bone protuding from the wound. The entire phalanx was found detached from the periosteum and was removed. Bone was reproduced, and the patient now has a strong finger with moveable joint.

Removal of Warts.

A very singular treatment for warts is recommended by Dr. **Cellier** in *Jour. de Med. et de Chirg. Prat.:*

An ordinary pin is thrust through the base of the wart, care being taken not to wound the healthy tissue beneath. Then the skin being protected, the head of the pin is heated in the flame of a candle. It is said that the wart becomes white and fissured in a few minutes, and comes away on the point of the pin. Dr. Cellier also says that it is only necessary to remove one wart on the hand, that though there may be a dozen, all the others will disappear without treatment.

QUARTERLY COMPENDIUM

—OF—

MEDICAL SCIENCE:

—A—

SYNOPSIS

—OF—

THE AMERICAN AND FOREIGN LITERATURE OF MEDICINE,
SURGERY AND COLLATERAL SCIENCES.

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D. G. BRINTON, M.D.

—AND—

JOSEPH F. EDWARDS, M.D.

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I. ANATOMY, PHYSIOLOGY AND PATHOLOGY.

On Some Hitherto Unappreciated Facts in the Anatomy of the Venous System.

Dr. John Gay thus writes in the *Lancet*, December 15, 1883: In this paper I wish to draw attention to some hitherto, I believe, unknown anatomical facts that bear upon doctrines with which we have long been familiar, but the foundations of which, being laid during what I may call the transitional period of anatomical research, may very reasonably become subject to modification if rightly transferred to some other and more substantial basis. Since 1837–38, when the Lettsomian Lectures, on some special diseases of the veins, were delivered by me, I have devoted considerable attention to the further study of the venous system. This has been more than repaid by the abstract enjoyment I have derived from that source. The facts I am about to relate are the results of a series of experiments by injections, conducted for a long time past with every effort to render them exact, intelligible, and trustworthy. The conclusions at which I have arrived, and of which I can entertain no doubt or question, relate mainly to the free anastomosis of veins of the trunk even in parts where valves exist and might be supposed to interfere with such freedom of intercourse. I began the series in the human subject, then I took monkeys, and subsequently, to satisfy myself of the inferences they yielded, had again recourse to human anatomy. After trying a variety of injections in monkeys, which failed of their purpose on account of their dying from disease (usually phthisis), I got a macaque from the Zoological Gardens that died apparently without any pathological lesions that could stand in my way, and Mr. William Pearson, at the Royal College of Surgeons injected it with wax. This he did with a certain amount of success, enough for my purpose, although my friend Professor Flower was good enough with his critical eye to see defects, and to draw my attention to them. The injected specimen [shown], when fresh was a very beautiful object; Professor Humphry, Sir James Paget, and other anatomists, including Professor Flower, examined it carefully, and I think admitted the success, as far as it went, of the injection. But it has suffered from the attempts to preserve it; still, I hope it contains evidence of the points I desire to establish. Prior to and since that injection I have had opportunities of repeating the experiment in the human subject at Mr. Cooke's admirably contrived and well-stocked anatomical studio, in a little burial-ground near the Foundling Hospital. To my friend Mr. Cooke, and the means afforded me by the resources of his interesting and comparatively perfect retreat, I am to a very large extent, and indeed well nigh exclusively, indebted. The injections were made and followed by a sectional display of the vessels and parts by Mr. Montille, recently of Professor Humphry's Museum at

Addenbrooke, and now at that of St. Thomas's Hospital, to whom I am much indebted; as well as to Mr. Pearson, to whom I am beholden for the opportunity of showing the macaque before you.

The results of these injections exactly correspond, and will, I trust, help to lay the foundation in some important respects, of the new reading of vein anatomy to which I have alluded, and to which I will now direct more particular attention· As it bears considerably on the azygoid and related systems, I will first offer a few remarks on their historical anatomy, with the hope of showing the excellent work done in that department on the revival of learning in Europe, especially in Italy and farther east. At the end of the second century the learned physician of Pergamus founded anatomy by observation and made it a science. But he imperfectly understood the nature or uses of the azygoid veins. It was not until the time of Eustachius that these veins became known; he published a series of plates on their anatomy, and was followed, as I learn from Professor Huxley. by Volthier Coiter, of Gröningen, who improved our knowledge of them, and at the same time invented that much, and in some respects well, abused practice of vivisection. Fabricius of Acquapendente followed up the inquiry until we come to Canini, who still more thoroughly examined these vessels, and first brought to light the fact of their having valves; and onwards to our immortal Harvey, who gathered up all the fragments of knowledge that had been collected by these great masters, and landed them on the *terra firma* of the great discovery of the circulation.

At the present time, a latent suspicion has been awakened in favor of physiological research as the means of advancing the science of healing and the practice of medicine, rather than in that of consolidating its basis through the elucidation of what is still obscure and has been least explored in our knowledge of anatomy, and an exact record of the results of such researches. To this view I am tempted to demur. Both are good, but perfection in anatomical details must antedate and form the basis and substratum of all physiological advance. The oscillations in the progress of physiological science, as well as all rightful progress in the art of medicine, correspond very much with the fluctuations in the advance of anatomical science. It is not my design to attempt to add to or improve the knowledge we possess of the anastomotical relations of the smaller veins as given in the excellent and trustworthy works of Gray and Quain, well known to every one. These veins form a network of inter-communication throughout the body. Every venule and vein contributes to blood extradition from its capillary reservoir and its full discharge into the systematic veins, with a certain and co-ordinate amount of free oscillation in order to provide against casual or designed obstruction. In its way to the heart this course of the blood-streams is marvellously provided for by the arrangement of the sinuous and often angular channels which conduct it. Here I must interpose the statement that all the trunk veins, like the muscular or axial veins of the extremities, appertain to the systemic system, whilst the collateral are exclusively, and without exception, cutaneous or superficial veins. If you want to get any communication between portions of the systemic veins most remote from each other, you will have to deligate the cavæ at their entrance to the heart and above their chief trunks, and trust to cutaneous channels for its re-establishment.

My first statement bearing upon the facts shown in this monkey is that if you inject a tributary vein in any part of the body, as, for instance, of the internal mammary in the trunk or in the limbs, and in any direction either backwards or centripetally, the injected fluid (if thin enough for permeation) will fill every vein throughout the body, and extend into its finest ramifications. The macaque exhibited is the proof to which I refer. You will observe that there is no vein or vein twig that is not fully injected, and from that one point—viz., the internal mammary. This I conceive to be a new fact in connection with the vein circulation. I have put its proof to the test by a considerable number of experiments, and in no one instance have I failed, provided the animal experimented upon was healthy. In order to prove the communications, even where these are apparently exposed to valvular interruption, as in the azygoids, its vessels must be injected by two distinct methods and from different points: first, forwards from an iliac, renal, or sacro-lumbar—a systemic, vein; and then after tying its trunk in another subject, backwards or in a direction opposed to the natural current, from the orifice of a remote collateral—e. g., an internal mammary, or internal jugular, vein. I have caused these methods of injecting this department of the vein system to be adopted several times. In the first the injection will be checked by the valves at the junction of the thoracics with the intercostals, whilst in the second it will take a circuitous route and fill the void costal portions. The next point is that the injection in taking this course fills every interposing organic structure. It will traverse the lungs, liver, kidneys, and, as I have every reason to believe, the spleen, supra-renal capsules, the thyroid, and other organic structures. The third is, that it does not follow that because one large organ, such as the liver or even other parts or organs of the body, are thus injected, all should be equally so filled. In the case of a subject injected by Mr. Montille (at present lying in Mr. Cooke's studio for observation by any one desiring it), the lobules of the liver were completely injected from the jugular and femoral veins, but no part of the fluid had passed into it by the portal vein. This vein was empty. And this is quite intelligible, for the course of the injection might be first through the superior, which receives the trunk of the inferior, phrenic, and passes by a single conjoint vein into the external hepatic vein and the liver. The phrenics anastomose freely with the lower intercostals, and thus the mammary blood can flow into the heart through the azygoids. The spermatic vein on the right side, as is well known, passes into the superior cava, and on the left into the renal as well. The injection might also fill the inferior hæmorrhoidal. This completes the proof that the whole of the vein blood from the nearest to the most remote parts of the trunk, has free access to the hepatic globules without being dependent on the portal veins for its conduct, so that it would appear that these veins are not exclusively portal to that organ. By the net-work already alluded to, the liver is accessible to the vein-blood equally from all parts of the system.

The bearing of this inquiry on physiological science is far from being remote as to its consequences. It shows that blood depuration by organic textures does not depend so much upon the means of access to the liver and other depurating organs of the blood from every part of the body, as upon the healthy performance of their functions. Any interruption to either the first or the second of these necessary conditions will be followed by marked local evidence, such as skin sallowness, corresponding with the area over which they have failed of being fulfilled.

The Micrococci of Pneumonia.

The *Brit. Med. Jour.*, January 26, 1884, says: The presence of micrococci in pneumonia was first described by KLEBS, and afterwards by EBERTH. In 1882, Dr. Friedländer published some more detailed observations on the subject, having demonstrated the presence of these organisms in eight successive cases, and having shown that in those cases which died early in the disease they were present in enormous numbers, not merely in the exudation, but also in the lymphatic vessels of the affected portions of the lung. These observations have since been confirmed by several observers; and, in a recent number of the *Fortschritte der Medicin*, Dr. Friedländer gives the results of an elaborate investigation on this subject, which he has been conducting with the assistance of Dr. Frobenius.

The micrococci of pneumonia are large, oval bodies which can be demonstrated by means of any of the aniline dyes, but are best shown by placing the sections first in Ehrlich's gentian-violet aniline staining fluid, and afterwards in a weak watery solution of iodine and iodide of potassium for a short time. In sections so treated, the nuclei and the tissue lose the violet stain in oil of cloves, so that, when mounted, the violet micrococci are very evident on the yellow ground. The micrococci differ from other micro-organisms found in the body in being surrounded by a capsule, which, in Friedländer's opinion, is composed of mucin. This capsule is not very easily demonstrated in sections, being best shown by staining with gentian-violet, but it is well seen in dry specimens of pleuritic exudation, or of the expressed fluid from pneumonic lungs, the micrococci being in both very numerous. These capsules are not, however, always present; in several cases, where numerous cocci were present, the capsules could not be demonstrated, but in all of these the patient had not died in the early period of the disease. They are held to be a product of the life of the micrococcus. These micrococci have not yet been demonstrated in the blood in man, but in the animals in which pneumonia was induced they were present in the blood.

Having shown the constant presence of a particular form of organism in pneumonia, the authors made pure cultivations of these bodies. This they were successful in doing in three instances. The material employed was, in the first instance, the solidified blood-serum used by Koch for cultivating the tubercle-bacillus; but afterwards gelatinized meat-infusion was inoculated with success. In the gelatine, the micrococci grew partly on the surface, and partly downwards into the gelatine, forming an appearance like a pin, the head of the pin being on the surface. This is a mode of growth apparently peculiar to these organisms. They grow also readily on potatoes, in the form of little grey drops; and when again inoculated on the gelatine, they again grow in the form of pins. The micrococci in these cultivations are oval, resembling those in the lung, but no capsules are formed around them.

The third part of the research consists of attempts to produce pneumonia in animals by means of the organisms cultivated in the manner described above, and consists of two divisions: one where the cultivation was injected through the thoracic wall into the pleura and lung; and the other where the micro-organisms were inhaled. The pin-shaped cultivation was diffused through distilled water, and then injected into the thorax of an animal by the glass syringe devised by Koch; the purification of the syringe and skin and the other precautions being carried out in the manner described by Dr. Koch. Injections of this fluid, in quantities varying from a half to one cubic centimètre, into the thorax of nine rabbits, were entirely without effect. Six of these were killed at various periods, but no morbid changes were found, and the other three were allowed to live. On the other hand, injections into thirty-two mice were always followed by the death of the animal, generally in eighteen to twenty hours; and, on *post mortem* examination, a reddish turbid fluid was found in the pleural cavities; the lungs were very red, almost completely empty of air, with numerous patches of red hepatization; the spleen was enlarged, but the other organs were normal. On microscopical examination, enormous numbers of micrococci were found in the pleuritic fluid, partly free in the fluid, partly contained in lymphoid cells, and they were surrounded by capsules. In the hepatized lung they were also present, and they were found in the blood in considerable numbers, and in the spleen. Control-experiments were performed with the same fluid heated so as to destroy the organisms, but the animals remained unaffected. Numerous cultivations were made from mice, and in all cases the typical pin shaped mode of growth was obtained, and the organisms so cultivated, when injected into other mice, again produced the disease. Injections into guinea-pigs were not so uniformly successful; in six only of eleven animals was pneumonia produced; the other five remained unaffected. The guinea-pig, therefore, in its relation to these micrococci, stands about midway between the rabbit, which is unaffected by them, and the mouse, which always succumbs. In the case of five dogs treated in the same manner, only one died, and in it was found a typical pneumonia and pleurisy; the other four only showed a temporary elevation of temperature and indisposition, which soon passed off completely.

The inhalation-researches were made entirely on mice, the fluid containing the organisms being introduced by means of a hand-spray into the cage in which the animals were. Three experiments were performed. In the first, two mice inhaled the material for five minutes; one of these was lost, but the other died in four days with advanced pneumonia and pleurisy, the exudation containing the typical organisms. In the second, four mice inhaled the fluid; of these, one died in four days of pneumonia, one was killed in three days, but was found to be perfectly healthy, and the other two remained well. In the third experiment, six mice were used; of these, two died in four days with typical lobar grey hepatization; the other four were unaffected.

These researches are very striking, and lend great support to the view, which has been gaining ground of late, that pneumonia is a specific infective disease. That all the mice subjected to inhalation did not get pneumonia, is explained by Friedländer on the supposition that, in most cases, little or none of the fluid entered the lungs, because the animals turned their backs to the spray. As regards these experiments, however, there is one omission, for no mention is made of control-experiments, such as spraying cold water into the cage; for those who hold that pneumonia is simply due to catching cold, may say that those animals which died of pneumonia got it from the wet spray, and not by inhalation of these specific micrococci. There are also other points which might have been made more convincing; nevertheless, the research is a great addition to our knowledge, and we hope that it may direct the attention of practitioners to the observation and recording of cases of possible epidemic pneumonia. Such observations can be better made in small towns or villages, where the sick are under the care of a few practitioners, than in large cities, where collective investigation of an outbreak is a matter of great difficulty.

The Localization of Cerebral Function.

The *Lancet*, February 2, 1884, tells us that at a meeting of the Royal Society on January 24th, Drs. FERRIER and GERALD YEO communicated a paper upon the effects of lesions of different regions of the cerebral hemispheres. The paper contains a detailed account of experiments conducted upon monkeys, consisting in the removal under anæsthetics of certain limited areas of the cortex, strict antiseptic measures being taken so as to avoid any fallacies arising from secondary inflammation in the vicinity of the injured part. These operations are particularly valuable in that they were conducted on animals high in the scale, so that the inferences drawn from the results are more justly applicable to human cerebral physiology; and they confirm in a very exact manner most of the conclusions previously arrived at by Dr. Ferrier and by neuropathologists. At the meeting Dr. Ferrier described the results obtained, illustrating his remarks by casts and photographs of the injured brains. The regions operated upon were the occipito-angular, temporal, Rolandic, frontal, and hippocampal. It was found that lesions of the occipital lobes and angular gyri caused disturbance of vision, a disturbance only temporary in the case of partial removal of those parts, total blindness with optic nerve atrophy only occurring when the whole of this wide area on both sides was completely removed. Unilateral excision of the occipital lobe and angular gyrus induced temporary amblyopia of the opposite eye and homonymous hemianopia of both eyes towards the opposite side. Our readers may remember that last session at the Medico-Chirurgical Society, Dr. Sharkey described a brain in which atrophy of this region was associated with atrophy of the optic tract; and the same observer recently argued on clinical and pathological grounds, in a paper at the Ophthalmological Society on "Homonymous Hemianopia, in favor of the visual centre being an "extensive expansion of the grey matter in the posterior part of the hemisphere." Similar experiments on the superior temporo-sphenoidal convolution were followed by complete and permanent deafness, other lesions of the temporal lobe producing no change in this sense. The Rolandic region—*i. e.*, the cortical areas around the fissure of Rolando—was again shown to be the centre of motor impulses, lesions in these areas producing motor paralysis without loss of sensation, varying in degree and extent according to the seat and extent of the lesion; secondary degeneration of the pyramidal tracts of the spinal cord followed these lesions. No effects followed lesions of the pre-frontal regions; whilst only temporary paralysis of the lateral movements of the head and eyes was produced by lesions of the post-frontal region, temporary so long as portions of the frontal lobes remained. Lesions of the frontal lobes were followed by descending degeneration, traced through the centre of the foot of the crus cerebri and of corresponding fibres of the internal capsule, but not passing into the anterior pyramids. Perhaps the most remarkable results were those which followed destruction of the hippocampus major and its convolution, and the neighboring inferior temporo-sphenoidal region, without interference with the crus or the basal ganglia or internal capsule. The precise limitation of these lesions was a matter of difficulty; but Dr. Ferrier's specimens showed well the care which had been exercised to effect the object in view. The result of removal of these portions of brain was to cause complete anæsthesia of the opposite side of the body, the degree of such anæsthesia depending upon the amount of destruction of the hippocampal region. The bearing of this upon Charcot's demonstration that cerebral hemianæsthesia is produced only when the posterior third of the internal capsule is destroyed, is interesting, and it serves to harmonize the doctrines of motor and sensory localization—viz., that of cortical centres. It should also stimulate inquiry into the course taken by fibres arising in the hippocampal region. Hitherto, the internal capsule at its posterior part has been thought to be composed mainly of fibres which pass directly from the peduncle to terminate in the grey matter of the occipital lobes. These researches of Dr. Ferrier suggest that, after all, these fibres are not the path of sensation, for lesions of the occipital lobes produced no anæsthesia; and if (as cannot be doubted) hemianæsthesia does follow lesions of the posterior part of the internal capsule, and also of the hippocampal region, it must be left to histologists to determine a nexus between the two.

Malignant Disease of the Pancreas.

Before the Glasgow Pathological and Clinical Society (*Glasgow Med. Jour.*, January, 1884), Professor M'CALL ANDERSON read the following notes of a case of malignant disease of the pancreas, specimens from which were shown.

Cancerous disease of the head of the pancreas is by no means a common affection; I do not, however, bring the present case under your notice on this account, but because it is illustrative of the difficulty sometimes experienced in forming a correct opinion as to the exact seat of the malignant affection.

This poor woman was 34 years of age, was married, and had had four healthy children; indeed, she had always enjoyed excellent health, and was very active previous to the commencement of her fatal illness.

Her mother is still living, and her only brother died in childhood as the result of an accident; but her father, who was intemperate, succumbed at the age of 60 to some internal complaint, although it is impossible to say whether it was of a malignant nature. About four months before she came under my observation she began to have sick turns, with occasional vomiting; these attacks gradually increased in frequency and in intensity, and about a month after their commencement pain in the epigastrium set in, which steadily increased, and which soon assumed a darting or stabbing character, especially after taking food, or as the result of external pressure. When her stomach was empty she was comparatively easy, but between two and three hours after a meal the pain, accompanied by sickness, set in, which was soon followed by retching and slight vomiting, and for about a month before my seeing her she had on a good many occasions vomited mouthfuls of black clotted blood.

Along with the epigastric pain she suffered from pain in the small of the back;

the latter came and went with the former, but differed from it in character, being dull, gnawing, and not so decidedly intermittent.

Her appetite was bad; she feared to take food on account of the distress which it induced, and her bowels had been very costive from the first. She had rapidly lost flesh and strength, and for two months her skin, conjunctivæ, and urine, had been deeply tinged with bile.

The physical examination revealed slight uniform enlargement of the liver, and a tumor bigger than an orange, which was possessed of lateral movement, and had the shape and occupied the position of a distended gall bladder.

She came under my care on the 7th November, and rapidly went down hill, with all the symptoms of malignant disease.

There are three points of special interest in this case viewed in the light of the *post-mortem* appearances.

(1) Gastric symptoms were present from the first and continued a prominent feature throughout, presenting latterly the usual characters of malignant disease at the pyloric orifice, and yet the *post-mortem* examination showed that the stomach was not implicated in the disease. The only way, therefore, that I can account for these symptoms is by presuming that the enlarged head of the pancreas pressed on the duodenum near the pyloric orifice, and that there was some impediment to the emptying of that organ.

(2) The well marked jaundice, and the greatly distended gall bladder, pointed to obstruction of the common duct, and yet Dr. Coats at the *post-mortem* was able to pass a probe through it. This, however, is not such a remarkable feature, seeing that a slight impediment prevents the escape of bile.

(3) There was no distension of the superficial veins, no ascites, and no material enlargement of the spleen, no clinical evidence of portal obstruction, and yet the portal vein was involved in the disease, and a probe could barely be passed through it.

Complete Absence of Jejunum, Ileum and the Greater Part of the Colon.

Dr. William Thomas thus writes in the *Lancet*, January 12, 1884:

F. D——, aged two days, was sent to me by Dr. Richards on October 20th. The child had been born prematurely (seven months), and on examination no trace of anus was visible in the normal situation. The labia were comparatively large; on separation no urethral orifice was visible, but a probe passed in the direction of the urethra for about two inches, could readily be felt through the abdominal wall above the pubes, and was followed by the escape of a few drops of clear fluid. A second could be passed along the posterior wall of the vagina in the direction of the rectum for more than three inches; this excited the expulsion of about a teaspoonful of pale, yellowish, gelatinous mucus. The abdomen was not distended, and seemed smaller than normal, especially in the lower part. The child had taken the breast, but had been sick continually, not retaining food many minutes. It was decided that some congenital malformation of the bowel existed, and that no operative proceeding could be undertaken with a reasonable prospect of success.

October 21st—Worse; cannot take the breast, but swallows a little milk and water. Has thrown up a quantity of stuff said to resemble "a baby's pale motion." The skin is much yellower than yesterday, and the child altogether weaker.—22d: The child gradually got weaker and died this morning. I was not immediately informed of the child's death, in consequence of which there was delay in obtaining permission to mak a post-mortem. The examination had to be made within an hour of the time appointed for the funeral, and was not so complete as desirable, only the abdominal viscera being examined.

The following notes were taken by Dr. Powell, resident medical officer at the Children's Hospital, who kindly assisted me:—Rigor mortis almost absent; skin generally of a brownish-yellow, with a considerable amount of post-mortem lividity. On opening the abdomen, and prolonging the incision downwards, it was found there was no union of the pubic bones, an interval existing between them large enough to admit a finger. There was no great distension of the abdomen; the great omentum was adherent in various places to the parts beneath. The stomach was of normal size, moderately distended, and connected with the duodenum by a constricted pylorus half an inch in length and rather less in diameter. On raising the great omentum the duodenum was found to occupy the greater part of the abdominal cavity. It was about an inch and a half in diameter in the distended state, and curved round the pancreas, to terminate on the left side of the spine by a blind extremity. There was no trace of any other part of the small intestine, nor of the cæcum, ascending or transverse colon. The intestine was recommenced by a blind portion of descending colon lying on the lower end of the left kidney, and continued by a sigmoid flexure and rectum, to terminate in the vagina. The liver was of normal size; the gall-bladder contained bile, but was not distended. There was nothing unusual about the kidneys, spleen, or pancreas.

Aneurism of Aorta Producing Paralysis of Right Vocal Cord.

To the St. Louis Med. Soc. (*St. Louis M. and S. Jour.*,) February 1884, Dr. MULHALL said I have two specimens here, which will be of some interest to the society. The small one is an example of a fusiform dilatation of the aorta, a fusiform aneurism, and in addition thereto, a sacculated aneurism. There are three or four saccules or bulgings of the aorta connected with the aneurismal thickening; also a calcareous degeneration of the coats of the aorta. You will also see in this specimen, that one of the saccules has pressed against the left common carotid and produced obliteration of it. The patient, during life, had no pulsation of the carotid in the left side. The aneurism also involves the right arteria innominata. It is an exceedingly interesting specimen. This is the larynx from the same individual. When I first saw him, there was paralysis of neither of the vocal cords, but incoordinate movement in both, showing an intermittent pressure on both recurrent laryngeal nerves. Gradually the pressure on the right recurrent laryngeal became steady and continuous, and he got paralysis of adduction, the result of which was inaction of the posterior crico-arytænoideus muscle, which in this specimen shows very prettily the atrophy. The patient had also on his left vocal cord a papillomata, which is very prettily seen. This had nothing to do with the interest of the case, except that it happened to be there; it was the same size 9 months ago as it is now. I noticed it in examining his larynx. There are a great many points of interest connected with the case, but as I knew there was to be a paper read to-night, I didn't get up the notes of the case. I may report the case some time. He had, for instance, suppurative bronchitis of the right lung, I think from the pressure on the pneumogastric. He had dyspnœa of two different kinds; one was constant, the other was not. The explanation of this is, as will be seen here by the specimen—I have a portion of the trachea here—that one of the sacculated aneurisms presses against the trachea, and this causes continuous dyspnœa. He also had from time to time very great dyspnœa, which almost threatened his life, and resulted from the paralysis of the pneumogastric. That is all I have to say of the case now. The patient never had syphilis; but he was rather subject to vertigo. He was 56 years of age; his hearing was perfectly good; there was no tinnitus; and his sight was perfectly good on both sides. He was hoarse all the time.

Syphilitic Stenosis of Bronchus.

To the Liverpool Medical Association (*Medical Press*, November 21, 1883) Dr. DAVIDSON showed a specimen taken from a man who died in the Royal Infirmary. The patient, æt. 30, was admitted suffering from intense and persistent pain in the left temporal region, which became worse at night. Vomiting was also present. Syphilis being suspected as the cause, notwithstanding firm denial on the part of the patient that he had ever had syphilis, although he acknowledged having suffered from gonorrhœa, moderately large doses of iodide of potassium were administered, and blisters were applied to the head, and in a short time the patient was discharged cured of his headache. Four and a half months later, however, he was re-admitted with chest symptoms. He was breathless, weak and emaciated, suffering from cough, with muco purulent expectoration. The breathing was stridulous, and bronchial râles were present. On laryngoscopic examination the epiglottis was found to be red, and the vocal cords covered with mucus, but the larynx was otherwise healthy. The patient complained of pain in the trachea and a feeling of obstruction referable to a particular part of it. He died a month after admission, the immediate cause of death being broncho-pneumonia, with commencing pericarditis. The specimen showed considerable ulceration of the lower part of the trachea, the cartilages being exposed, and stenosis of the bronchi. The brain showed thickening of the dura mater of the left side, and a patch of opacity, and within, a thin organic membrane. The latter appearances are interesting as throwing light on the pain from which the patient was suffering, when first admitted into the hospital.

On Changes in the Cord After Poisoning with Arsenic, Lead, and Mercury.

Dr. N. POPOW, (*Virchow's Archives*), has studied the above subject experimentally. The results of his investigation are tabulated as follows:

(1) Arsenic, lead, and mercury produce marked changes in the cord in acute cases of poisoning, which must be regarded of the character of an acute central myelitis.

(2) In relatively protracted cases these changes are not confined to the grey substance, but invade the white, and thus represent the form of a diffuse myelitis.

(3) The peripheral nervous system remains entirely unchanged by the rapid action of these poisons.

(4) The clinical symptoms on the part of the nervous system are fully explained by the changes described above, while no one of them can be explained by an affection of the peripheral nerves.

Popow's experiments were made chiefly upon dogs, and the doses were in most cases regulated, so as to contrast the results in both acute and chronic poisoning.

Ossification of the Brachialis Anticus.

In the *Arch. de Med. et Phar. Mil.*, Jan. 6, 1884, RASMUSSEN reports two cases of ossification of the brachialis anticus occurring at the military hospital at Copenhagen. After prolonged muscular effort, a tumor appeared in the middle of the muscular mass of the arm. It was very hard and painful, and easily distinguished from the biceps in front and the triceps behind. There was considerable functional trouble, and movements caused pain. Complete extension of the forearm could not be effected. The acute stage having passed off under the use of cataplasms, a sling and rest, the tumor was found to be reduced, but resembling an osseous growth from the humerus, and involving the brachialis anticus. After treatment, which did not exceed one month, the patients returned to duty. In one case the osteophyte diminished markedly in a month. Rasmussen is inclined to believe that the affection is caused by rupture of muscular fibres and of the fibres of the insertion of the periosseum; this is followed by an extravasation of blood, which is progressively transformed by a simultaneous regression and osteogenesis.

Morbid Changes in the Ovaries in Certain Diseases.

The *London Med. Record*, January 15, 1884, says that Dr. S. KOLAGO (*St. Petersburg Inaugural Dissertation*, 1882) has carefully examined the state of the ovaries in syphilis (one case), typhus (two cases), laryngeal diphtheritis (four), acute miliary tuberculosis (one case), and in acute poisoning by morphine (one case). He found the following respective changes: 1. In syphilis: endarteritis obliterans of the ovarian arteries; the process is identical with that described by Heubner for the brain-vessels. 2. In typhus: granular degeneration of the parenchyma of the ovary, hyperæmia of the interstitial tissue, opaque swelling of the endothel of vessels. 3. In diphtheria: hyperæmia of tissues, granular degeneration of the ovum and membrana granulosa. 4. In acute poisoning by morphia: fatty degeneration of the ovarian parenchyma and elements of the theca folliculi; intense hyperæmia of tissues with numerous extravasations, and swelling of the epithelium of blood-vessels, especially of capillaries. 5. In miliary tuberculosis of the lungs: diffuse infiltration of the interstitial tissue, with granulation elements; miliary tubercles.

II. PHYSICS, BOTANY, CHEMISTRY, AND TOXICOLOGY.

Analysis of Articles of Food, as to their Nutritive Values for Commercial Purposes.

The following is from the *Chemiker Zeitung*, January 3, 1884: Articles of food contain the following groups of matter: (1) water, (2) nitrogenous bodies, (3) fat substances, (4) fibrin (Rohfaster), (5) ash, (6) extractives free of nitrogen. In many cases it is sufficient to determine, for analytical purposes, the nitrogenous substance and fats only; for instance, as to their value as nutriments; in other cases, however, it is necessary to extend the examination to determine the percentage of amido-nitrogen, starch, etc., etc. The methods of analyzing the single substances are nearly identical in most laboratories, and their determinations are made in the following manner:

(1) To determine the amount of *water*, from 5 to 8 grains of the finely ground substance are dried in a hydrogen stream of a Liebig's drying-apparatus, at a temperature of 100° C. In order to maintain an even temperature, it is best to place the vessels in a bath of boiling water. The drying is concluded in a moderately strong hydrogen stream within 6 to 8 hours. The hydrogen stream is passed through several bottles, in which chromic acid (to get rid of arseniated hydrogen), sulphuric acid, and finally glass wool (to retain the sulphuric acid) are placed. Any other indifferent gas—purified olefiant gas, for example—can be used instead of hydrogen gas. The practice of drying articles of food in a hot-air bath at 100° C., as it is done in some laboratories, must be avoided, because of the oxidation of the fat substances, which, under some circumstances, may naturally lead to considerable error.

(2) To determine the amount of *nitrogenous substances*, 1 gram of sample is burnt with soda-lime, taking care to strictly observe the usual method of manipulation. The resulting nitrogenous mixture, multiplied by 6.25 (the protein bodies contain on an average 16 per cent. nitrogen), shows the amount of nitrogenous substances, symbolized by NH. In the United States the factor is considered to be 6 instead of 6.25. Some foods contain, besides protein substances, not inconsiderable quantities of amido-compounds, etc., which, according to investigations of Weiske, Zuntz, and others, possess less nutritive value than the albuminous bodies. Such foods are treated, according to Stutzer's method, by precipitating the protein bodies with oxyhydrate of copper; viz., 1 gram of substance is heated in a beaker-glass to the boiling-point with 100 ccm. absolute alcohol and 1 ccm. acetic acid—first, to get rid of the, in water, sparsely soluble alkaloids; and second, to saturate phosphate alkalies which may possibly be present, which

otherwise would dissolve the protein bodies, and then carefully decant the liquid from the settled solid parts, so that only traces of the former are brought upon the filter. The filter is previously washed with warm alcohol, so as to free it from fat. The remaining substances in the beaker-glass are then boiled with 100 ccm. water, to which 10 ccm. of a 10 per cent. solution of glycerine with precipitated oxyhydrate of copper is added (which contains 0.3–0.4 CuH_2O_2). After cooling, filter through the already used filter, wash, filter with a little water, and then dry it in a hot-air bath at 105° C.; cut it into pieces, and burn it with soda-lime. The nitrogen of the filtering-paper itself has, of course, to be determined separately and deducted from the directly found nitrogen. The difference between the total nitrogenous substances and the protein bodies, determined in this way, gives the amount of amid-like substances, alkaloids, etc., present.

(3) *Fats.*—Under fat, in articles of food, are understood all substances that are capable of extraction with warm ether, for which reason fat is commonly given as "*ether-extract.*" In France, however, bisulphide of carbon is sometimes used for the purpose of extraction. The determination of fat has, as a matter of course, to be made with the substance freed of water, for which purpose from 4 to 8 grams of the sample, according to the percentage of fat and the degree of fineness, are taken. The best and most simple apparatus for extraction consists of a strong glass tube, to which, at the lower end, a thinner tube is joined by heat. Into the wide upper part of the tube is now loosely fitted and inverted a test-tube, whose bottom has been cut off and the edges carefully enveloped with fine linen or with filtering-paper freed of fat. Into this test-tube is placed the substance to be extracted, while to the thinner end of the tube is now attached a small tared retort containing 50 to 100 ccm. of ether. The ether, brought to the boiling-point in the water-bath, ascends the inner walls of the tube, heating the substance therein, and drips, after condensing in the cooler, again upon the substance. In this manner (and this is the advantage of the apparatus) the substance is extracted at a *warm* temperature. The extraction terminates after about 6 hours, provided the ether distillation was not conducted too slowly. The resulting fat solution is then freed of ether by distillation, and the last traces of ether are dissipated by drying at 100° C., and the retort, plus fat, is then weighed. It remains to be stated that it is necessary to attach to the upper opening of the cooler a tube filled with calcium chloride, to prevent the ether from absorbing water.

(4) The process to determine *fibrin* is an absolutely conventional one. Fibrin consists not only of *cellulose*, but is, briefly expressed, the *residue* of food-substances which remains after extraction with dilute sulphuric acid, liquor potassæ, alcohol, and ether. 3.3 grams of the previously-dried substance with 200 ccm. of diluted sulphuric acid (1.25 per cent) are gently boiled in a porcelain evaporating-dish for 30 minutes. This process is to be repeated twice with 200 ccm. of water for the same length of time. Care must be taken to keep up the level by gradually adding boiling water. The extracts resulting from this boiling are then collected in a beaker-glass, and, after settling, the clear liquid is siphoned off and the residue thrown upon a filter. The particles left upon the filter after filtration are then re-transferred into the dish, which is best accomplished by spreading the filter upon a glass plate and washing with the subsequent neces-

sary 200 ccm. of a 1.25 per cent. solution of potassa, and proceed to boil again, and repeat twice, boiling with 200 ccm. water, siphoning off, etc., etc., in exactly the same manner as before. The residue is finally washed upon a tared filter with alcohol, then with ether, after which it is dried at a temperature of 100° to 105° C. and weighed. The fibrin thus obtained still contains a very small amount of nitrogenous substances and ashes, which are, however, not necessarily to be determined in an analysis for commercial purposes, as in this connection fibrin is considered as containing *ashes* and *nitrogenous fibrin.* The latitude in analyses of this kind is great, because even by the most conscientious labor there are differences of from 0.5 to 1 per cent. manifest in such investigations.

(5) The determination of *ashes* is made in the usual manner. Care must, however, be exercised that the heat applied is not too great, on account of the volatility of the potash. The amount of carbonic acid formed during the process of washing and fixed to the bases, is to be determined separately and deducted from the total weight of the ashes, which is best accomplished with a Geissler apparatus.

(6) The amount of extractives *free of nitrogen* is determined by subtraction from the sum total of all substances present in 100 per cent.

Ptomaines.

The *Louisville Med. News*, February 2, 1884, says: Perhaps the most remarkable of recent discoveries in chemistry are certain substances resembling closely the vegetable alkaloids, to which the name "ptomaines" has been given by Selmi as indicative of their cadaveric origin. Though these substances have been frequently alluded to in medical and other scientific journals, mentioned in recent editions of standard works on chemistry, and made to figure quite effectively to the confusion of experts in certain trials for murder, they have till quite recently been scarcely more than a name.

A satisfactory survey of the work done by various chemists in this line of research, by R. N. Wolfender, B. A., M. B., Cantab., is published in a recent number of the *London Lancet*, from which it would appear that ptomaines are likely to play an important part in the physiological, pathological, and medico-legal investigations of the future.

After a description of the general character of ptomaines, from which it appears that some are innocuous, others energetic poisons, and that they answer to nearly the same reactions as the vegetable alkaloids, their physiological properties being their only distinguishing characteristics, the author considers them under three heads: (1) As constituents of normal tissues; (2) their presence under certain pathological conditions; and (3) as a cadaveric or artificial production.

Physiologically they are the result of tissue metamorphosis, and have been found in fresh (human) saliva, in snake poison, and in normal urine. From twenty or thirty cubic centimeters (less than an ounce) of saliva, a poisonous substance has been obtained in sufficient amount to reduce ferro-cyanide of potassium with a few drops of ferric chloride, forming Prussian blue, and to kill a frog in a short time when injected into his thigh.

From the urine a substance with decided alkaloidal reaction and of very poisonous properties was found by Gautier, while snake poison, it would appear upon the same authority, has been found to "differ from human saliva only in the intensity of its action."

In certain pathological conditions, recent observations of Selmi's on what he calls pathological bases would seem to show: (*a*) In urine of patients suffering from progressive paralysis there are two volatile bases, the one like nicotin, the other like coniin. (*b*) In urine voided during interstitial pneumonia were two alkaloidal bases, one having the odor of stinking fish, the other of ammonia. (*c*) Two similar bases were found in the urine of patients with abdominal typhus. (*d*) In tetanus a base like coniin was discovered in the urine. (*e*) In the urine of "miliary fever" an alkaloidal base having the odor of stinking fish has been observed.

As a cadaveric or artificial production: There can be no further doubt that these bodies are largely produced in the process of decomposition of nitrogenous or proteid tissues. Since Selmi first described their production, his facts have been abundantly confirmed and extended. There are many varieties of them, and they vary much in their nature, according as the length of time after death is long or short. They are, however, of slow production naturally, a point referred to before, and to be borne in mind in conducting medico-legal inquiries. Stinking fish, bad meat, etc., all contain poisonous principles which can be extracted after the manner of ptomaines. The gastro-intestinal irritation and profound toxic symptoms produced by the ingestion of bad food are probably at the bottom processes of alkaloidal poisoning. It is even probable that many so-called uræmic phenomena are produced by the retention within the body of these alkaloidal poisons; and further, that the products of gastric digestion contain poisonous properties which, imperfectly excreted, may become toxic. There is a statement by Baiduino Bocci that normal urine, especially after meal-times, if injected into frogs, destroys them rapidly. The observations of Gautier that an alkaloid of highly poisonous nature is to be obtained from normal human urine, is of importance with reference to this point.

Both from freshly prepared peptone made by the action of gastric juice on pure fibrin, and from stinking peptone by boiling with caustic soda, evaporating, extracting, and purifying, toxic alkaloids can be obtained which kill frogs and rabbits in a few minutes. Putrefying casein, brain substance, liver, and muscle, also yield these products. I have confirmed the observations of others as to the production of these substances, and I have also confirmed the statement of Gautier as to *the production of a toxic principle from ordinary fresh saliva, which is very destructive to small animals.* The extension of these observations to the investigation of snake poison and the salivary poisons of certain animals in the pathological state (rabies, etc.), becomes of extreme import. The investigations of Weir-Mitchell on the production of snake-poison are of extreme interest in connection with this point, indicating, as they do, the discovery of three toxic principles in serpent's venom, the one resembling a peptone, the other a globulin, and the third serum albumen.

The ptomaines so far described are: (1) Ptomaines, like atropin and hyoscyamine, crystalline, which dilate the pupil and accelerate the heart, obtained from putrescent albuminous fluids. (2) An alkaloid from decomposing yeast

(Schmeideberg and Bergmann) which the authors call sepsin, and which resembles strychnia. (3) An alkaloid resembling morphia in its tests, but not in its physiological properties (Selmi). (4) One agreeing with delphinin, and which by warming with phosphoric acid gives a red color. It does not agree physiologically. (5) One resembling strychnia in its behavior toward sulphuric acid and potash bichromate, but not causing tetanus (Ciotto). (6) Alkaloids like muscarin (Gautier, Brieger, etc.). (7) Alkaloids like coniin, colorless, leaving a sharp taste like tobacco, and consisting of a poisonous and non-poisonous moiety, one part volatile, the other non-volatile; one soluble and precipitated by warmth, like coniin, the other not. (8) Alkaloids resembling parvolin and hydro-collidin (Gautier and Stard), and one like collidin (Neucki).

The author sums up his conclusions as follows:

1. There are developed in the body, post-mortem, poisons of an alkaloidal character, and which can be obtained also by decomposition of albumen peptone, casein, muscle, brain, etc. Moreover, they seem to be present in some normal secretions (saliva and urine).
2. These cadaveric alkaloids may be mistaken, post-mortem, for vegetal poisons administered with evil intent; but if the body be examined within from twenty-four to forty-eight hours after death, any alkaloid there found would be strong presumptive evidence of poison, and not ptomaine. After a couple of days it may be a matter of doubt.
3. There is no satisfactory test surely indicating the presence of ptomaine. Physiological characters must be taken in conjunction with chemical tests.
4. Probably the production of ptomaines within the living body, may be the pathological cause of many obscure conditions, especially those following on poisoning by bad food, such as stale fish, etc.

Several of the above conclusions are marvelous indeed, and aside from their chemical and medico-legal interest, give to the animal alkaloids certain toxicological possibilities of startling significance.

One of the questions which would seem to have received especial light through these investigations, is that of the venomous quality of saliva in men and animals under certain conditions, a fact alluded to by the elder Pliny in his comments upon the habits of certain snake-charmers (the Psylli), and recently noted by Pasteur. However, under the hypothesis above suggested, that the difference between the human saliva and snake poison is one of degree only, it would be difficult to explain why the saliva of fasting men should be fatal to serpents when put in their mouths, as was claimed by Pliny. That decaying animal food should so often prove poisonous, is made clear by this discovery; and it would seem that the consumers of Limburger cheese, and what is called "high game," might here take timely warning as to the danger of their favorite gastronomic diversion.

The above points by the way; but what shall we do with the statement that *fresh normal saliva contains these toxic alkaloids*, and that *they are also found in peptone made by the action of the gastric juice on pure fibrin?* If these statements be true, then more truly than ever may it be said that we carry within us the elements of our own destruction, since every man must, during or after a normal digestion, take into his blood a deadly poison, which, through any defect in his eliminative apparatus, may seriously impair his health, if it does not cost him his life.

A Case of Poisoning by Turpeth Mineral—Death.

Dr A. McPhedran reports this case in the *Med. News*, December 22d, 1883: "I am not aware that any instance of poisoning by the yellow sulphate of mercury has been published, or that such a result has ever before occurred from its administration, and deem it, therefore, a duty to report the following case. A medicine that has been so unreservedly commended by so high an authority as Dr. Fordyce Barker, of New York, must be used by many practitioners in both the United States and Canada. Should it occasionally miscarry with even less disastrous results than in the case given below, it is very desirable that such a fact be known to the profession generally, that due caution may be exercised in its administration.

"I was consulted in August of last year by a woman for her child, aged five months, on account of a croupy cough which had begun two days before, and was growing worse. There were symptoms occasionally of slight spasm of the larynx, and the mother was apprehensive of 'croup.' The cough was due to a slight catarrh of the larynx and trachea, with pretty free secretion. The child was healthy and well-nourished, though small. Fearing an attack of dyspnœa during the night from spasm of the larynx, it was thought advisable to be prepared to give an emetic, and two powders, three grains each, of turpeth mineral, were ordered, with directions that one should be given as soon as an attack of spasm threatened. The second powder was directed to be given in fifteen minutes if the first failed to produce vomiting. No doubt, however, was entertained of the prompt action of the first powder.

"During the night, the mother thought it necessary to make the child vomit, and gave one powder, a little of which was not swallowed, but returned mixed with saliva, so that probably about two grains were taken. A few minutes afterwards, the child seemed greatly distressed, and made fruitless efforts to vomit. The second powder was given in a quarter of an hour, but only increased the suffering, without producing emesis.

"I was immediately sent for, and, on my arrival, found the child in great agony. The tongue was slightly whitened, and the throat filled with mucus. Shortly afterwards the bowels began to move. The first motion was of normal consistence and dark-yellow color; the subsequent ones consisted of white, coagulated mucus and watery fluid, in which at first could frequently be seen light, yellow particles, which probably consisted of turpeth mineral. The evacuations were very frequent, and soon became almost continuous. The child could swallow nothing, so that little could be done to give relief. An enema was given, but it returned immediately. After about two hours, collapse began to set in. The pain came in paroxysms, during which there were efforts to vomit. The collapse gradually increased, and death took place in eleven hours, with signs of slight convulsions.

"These symptoms are identical with those due to acute poisoning by the perchloride of mercury. The lemon-yellow color of the powder precludes the possibility of its being other than the yellow sulphate. A short time previously I prescribed this emetic for diphtheritic laryngitis in a child under two years old. The prescription was filled from the same bottle of the medicine as was used to fill the order in the above case. In that case, four and a-half grain doses were given, and each dose caused prompt, easy emesis, without any perceptible depression following its action. Full doses were ordered in each case, in the expectation that the most prompt action would be obtained, without any increase in the depressing effects. I was led to give the preference to turpeth mineral for the infant, from observing how perfectly it met all the requirements of an emetic in the case of the child. My friend, Dr. Cameron, of this city, has since had similar experience with this medicine. He ordered it for a child, and the first dose not producing emesis, a second was given. This also failed to accomplish the object aimed at, but a severe diarrhœa was produced, which terminated fatally."

Chlorozone.

From the *Deut. Industrie Zeitung*, we learn that when chloride of lime, or bleaching powder, is decomposed with cold hydrochloric acid, and the chlorine thus liberated and mixed with air is passed into a solution of caustic soda, it is absorbed and forms a liquid of unknown chemical composition. The liquid possesses bleaching and decolorizing properties. De Dieuheim-Brochowski, of Paris, was the first to prepare this liquid, and to it he gave the name of "chlorozone."

Professor Mill has recently proved, says the *Farberei-Muster Zeitung*, that this substance is not identical with the well-known bleaching salt called hypochlorite of soda, and which one would naturally expect to have formed by this reaction. In fact, it differs from the latter in color, odor, and its more energetic bleaching power.

Chlorozone forms a clear liquid, having a specific gravity of 1.27, is of a yellow color, and possesses a characteristic odor. When kept in glass carboys, in a cool, dark place, even if very concentrated, it keeps quite well, decomposing but slowly, and giving off oxygen. More dilute solutions—"chlorozone water"—are more permanent.

Its remarkable bleaching power is increased by sunlight or the addition of acids and bromine. In bleacheries, dilute solutions, having a gravity of 1.07 to 1.03, are employed. Both this and the concentrated solutions of chlorozone are commercial articles.

When chlorozone is used for bleaching purposes, the tanks in which the operation is conducted must be lined with pitch or asphalt; wood weakens its action, because it is itself attacked, and vats made of sandstone are liable to cause iron-stains. The bleaching follows directly after the alkaline bath, first in the cold, then at a temperature of 120° to 140° F. The wringing, acidifying and rinsing, are the same as in the ordinary process of quick bleaching.

Chlorozone is well suited to replace chloride of lime for bleaching cotton, flax, linen, jute, and hemp, but is not adapted to silk and wool. In very dilute solutions of 1 to 400, it is recommended as a substitute for chloride of lime in the household and for public laundries, being easier to manage and less dangerous, although more efficient. When dilute, as 1 to 39, it removed old stains of red wine in half an hour.

It may also be stated that chlorozone is a powerful disinfectant.

Chemical Changes in Damaged Grains.

We take the following from the *Am. Chem. Review:* A quantity of barley which had been subjected to a continuous rain for about two weeks during harvest time, and which in consequence had germinated somewhat, was dried, and a sample sent to Prof. M. Maecker, of Vienna, together with a sample of barley from the same field, which had been harvested in a good, dry condition. A careful comparative analysis was made with the following result:

The common food analysis did not show any appreciable difference between the two samples, but in the determination of matters soluble in water the results were very striking, and proved that during the germinating a very energetic diastatic action takes place in the grain, which converts the starch and dextrine into sugar. The analysis proved that the quantity of starch had, in this manner, diminished considerably, in part by its conversion into soluble dextrine, and in part by a production of carbonic acid.

For practical purposes, such reduction of the starch in damaged grains must prove of considerable importance, especially in the manufacture of starch. Aside from such direct loss, the grains contain a large amount of diastase, which in the course of the manufacturing process will tend to transform an additional amount of starch into dextrine and sugar; and the quantity of starch obtained from such damaged grain must be considerably below the average.

But the most pronounced changes in the damaged grains were found in the nitrogenous compounds. Accepting the whole of these compounds as 100 parts, then the soluble albumen, which in the good barley consisted of 4.6 per cent. of these 100 parts, was reduced to 18 per cent. The insoluble albumen, which in the normal grain consisted of 91.5 per cent. of the nitrogenous matter, had undergone a reduction of 20.6 per cent. in the damaged sample; but the amides, the ammoniacal compounds, had increased at the same time from 1.5 to 22.2 per cent. of all the nitrogenous compounds.

The power to germinate, of which a mean of 98 per cent. was obtained in the normal sample, was reduced to 45 per cent.

Analysis made by Prof. Kobus, of Vienna, of damaged wheat, was quite analagous to that of the barley; a large reduction in quantity of starch, and an increase in the soluble dextrine, together with very strongly marked changes in the nitrogenous compounds, which all tended to the well-known practical experience that flour made of damaged wheat is more or less unfit for baking purposes.

Poisonous Plants and Flowers.

We take the following from the *Country Gentleman:* There are many plants whose leaves, flowers, and seeds contain virulent poisons, which every one should know, so as to avoid them and keep children from them.

Buttercups possess a poisonous property, which disappears when the flowers are dried in hay; no cow will feed upon them while in blossom. So caustic are the petals that they will sometimes inflame the skin of tender fingers. Every child should be cautioned against eating them; indeed, it is desirable to caution children about tasting the petals of any flower, or putting leaves into their mouths, except those known to be harmless.

The oleander contains a deadly poison in its leaves and flowers, and is said to be a dangerous plant for the parlor or dining-room. The flower and berries of the wild briony possess a powerful purgative; and the red berries, which attract children, have proved fatal. The seeds of the laburnum and catalpa tree should be kept from children; and there is a poisonous property in their bark. The seeds of the yellow and of the rough podded vetches will producc nausea and severe headache.

Fool's parsley has tuberous roots, which have been mistaken for turnips, and produced a fatal effect an hour after they were eaten.

Meadow hemlock is said to be the hemlock which Socrates drank; it kills by its intense action upon the nerves, producing complete insensibility and palsy of the arms and legs, and is a most dangerous drug, except in skillful hands. In August it is found in every field, by sea-shore and near mountain tops, in full bloom, and ladies and children gather its large clusters of tiny white flowers in quantities, without the least idea of their poisonous qualities. The water hemlock, or cow-bane, resembles parsnips, and has been eaten for them with deadly effects.

The water dropwort resembles celery when not in flower, and its roots are also similar to those of the parsnip, but they contain a virulent poison producing convulsions, which end in death in a short time. The fine-leaved water dropwort and the common dropwort are also dangerous weeds.

The bulbs of the daffodil were once mistaken for lecks and boiled in soup, with very disastrous effects, making the whole household intensely nauseated, and the children did not recover from their effects for several days.

Are Nickel-plated Cooking and Eating Utensils Poisonous?

By way of answer to this question the *American Druggist* says: Nickeled utensils were first made more than thirty years ago by the late Professor Boettger, but have recently become more popular, owing to the success that has attended Dr. Fleitmann's attempts to work nickel on a large scale, especially of malleable nickel that can be rolled. The increased favor which this brilliant silver-white metal has met with recently has given rise to the question of its poisonous quality. Dr. Fleitmann does not consider the metal as poisonous. The *Polytech. Notizblatt*, formerly edited by Dr. Boettger, thus discusses the interesting question:

At the present time metallic nickel and its salts are prepared in a very pure state, the copper and arsenic frequently present in nickel ores are almost completely removed. Especial care is taken to remove the arsenic, because it would injure the color of the nickel plate.

In regard to the supposed poisonous nature of nickel, it may be remarked that nickel and copper alloys have long been in use for domestic utensils, as well as copper itself. Such vessels must of course be protected from acids and always kept clean and bright. When this is done, none of the metal passes into a soluble form. All metallic salts are more or less poisonous, even the salts of iron, to which the salts of nickel are more nearly related than to those of copper, which are indeed quite poisonous. Metallic vessels should always be kept clean, and this is true of nickel too, and then there is no need to concern ourselves about its poisonous character. It would be very desirable to have thorough and careful experiments made upon the physiological action of nickel salts when in solution. Birnbaum has shown (in *Dingler's Jouraal*, ccxlix. 515), that solutions slightly acidified with acetic acid, as well as the juice of sour cherries, when left for some time in nickel vessels, take up considerable quantities of nickel, which confirms the view above expressed that acid solutions should be kept as far away as possible from all such utensils and vessels.

Oxalo-Antimoniate of Potash.

The *Pharmaceutical Record*, February 1, 1884, says that under the name of "tartar emetic substitute" a new article has been introduced in Europe for the use of industry. Its external appearance is so very much like that of the potassio-antimoniac tartrate that they can only be distinguished by chemical analysis. The low price of this new compound is the chief cause of its largely being substituted for tartar emetic in dyeing and printing.

On being submitted to chemical examination, the new "tartar emetic" was found to contain no trace of tartaric acid, but to consist of potassio-antimonic oxalate. A quantitative analysis proved its identity with the salt $C_6O_{12}SbK_3+6H_2O$, first prepared by Souchay and Lenssen.

This salt contains 23.67 per cent. antimonic oxide, while the potassio-antimonic tartrate contains 46.7 per cent. The tartar emetic consequently contains almost twice as much of the effective antimonic oxide. But the difference in the price is in no proportion to the effectiveness. The manufacturer effects a considerable saving by using the cheap oxalic acid in place of the expensive tartaric acid.

The manufacture of this "tartar emetic substitute" is very simple. It is only necessary to saturate a boiling solution of acid potassium oxalate with freshly precipitated antimonic oxide, and to filter it boiling hot. On cooling, the salt is obtained in the form of the most beautiful crystals, which in appearance and all properties are identical with the re-crystallized commercial product.

For medicinal purposes the new tartar emetic should be rejected, not owing to the presence of oxalic acid, which is harmless enough in such doses, but because it is much inferior in strength to the officinal article. The antimonic oxide being the active principle of the two compounds, the new salt may be said to be only about half the strength of the old.

Poisonous Fishes.

We take the following from the *Jour. Am. Med. Ass.*: Eleven cases of poisoning are detailed, of varying severity, some followed by death, and that very soon after the ingestion of the poison. The symptoms of slight poisoning were mainly referable to the nervous system—muscular weakness; tendency to fainting; numbness; affection of vision, of tactile sensibility, and of the muscular sense, which persisted for several days, even for a week. The symptoms of rapid poisoning were an exaggeration of the foregoing, added to which were nausea, gastralgia, abundant biliary and glairy vomiting; death occurring by the progress of a paralysis which attacked the heart and respiratory organs. As the symptoms of in stant poisoning, in from ten to twenty-five minutes the subject falls as if suddenly struck down, and loses consciousness, which does not return, although he may live several minutes. The heart loses its force of contraction, and asphyxia is rapid, but no vomiting ensues. In view of the preceding, the writer comes to the following conclusions:

The poison of the genital organs of the tetrodons is a poison paralyzing the nervous centers, which act more or less markedly upon general and special sensibility and upon motility, and cause death by paralysis of the heart and asphyxia.

Poisoning from a Leech Bite.

The *Med. Record*, February 9, 1884, says that Dr. Gmeiner relates a case of fatal poisoning from a leech bite, occurring at Berne (*Journal de Médecine de Bruxelles*, vol. lxxvii., 1883). A man who was suffering from severe toothache, on the advice of a dentist, applied a leech to the gums. After a couple of hours the pains increased and a slight inflammatory redness appeared on the lips, soon spreading over the neck and chest. The following day there was swelling of the tissues about the head and face, and the patient had a high fever and dyspnœa. A few hours later he became delirious, had convulsions, and died the following night. The wound caused by the bite of the leech was of some size, and black in color. The leech had been for a considerable time in the pharmacy where it was procured, and it was impossible to determine the nature of the poison from which the man died.

New Test for Lead in Water.

From the *Pharmaceutical Record* we learn that Mr. A. W. Blyth has announced that cochineal is one of the most delicate tests he has found for the presence of lead. The test is a one-per-cent. solution of cochineal in proof-spirit. Ten drops of this is added to a fluid ounce of the water contained in a white porcelain dish.

If the water is free from lead the color is simply a dilution of the pink tint; but if it contains but one seven-hundred-thousandth part of lead the tint will be a purplish pink, and if it be as much as one seventy-thousandth part it will become a purple blue.

Poteline.

The *Jour. de Pharm. D'Als-Lor.* says that this is the name of a mixture of gelatin, glycerin and tannin, to which sulphate of barium, or of zinc, may be added, and which may be colored by vegetable colors. It may be kneaded while warm; when cold it may be used for numerous purposes. It can be turned, filed, bored, polished, and can be used for hermetically sealing bottles, etc. The proportion of ingredients varies according to the uses; for sealing bottles, of course, it must be used liquid. Potel, the inventor, uses it with success for preserving meat, by applying it liquid at a temperature of 50 to 60° C.

III. MATERIA MEDICA AND THERAPEUTICS.

The Treatment of Acute Pneumonia.

In the *Boston Med. and Surg. Jour.*, Feb. 21, 1884, Dr. **Francis Minot** relates several cases to illustrate the following remarks on this subject:

Notwithstanding the great improvement which has gradually taken place in the treatment of acute pneumonia during the last thirty years, I think it is not yet so perfect as our knowledge of the pathology and course of the disease should lead us to expect. Although the belief that it is essentially an inflammatory disease is fast disappearing, the traces of the mode of treatment founded on that theory still remain. It is true, we do not often bleed our patients, nor give them tartar emetic, nor purge them actively; but it is not uncommon to see extensive blisters applied to the chest, and aconite, veratrum, and other sedatives are given with a view of diminishing the rate of the pulse, and thereby, it is argued, of reducing the inflammation, while, strange to say, nourishment and stimulants are freely given at the same time to support the strength. It is only recently that the notion of the infectious nature of pneumonia, first maintained, I believe, by Juergensen, of Tübingen, began to be accepted by well educated and experienced physicians, and it is natural that the traditions of a former generation, which believed in its essentially inflammatory character, should still prevail among us. If it were more generally known that the disease is self-limited and infectious, as much so as measles or variola, and that it is rarely if ever fatal in healthy subjects, a more rational treatment would be substituted for the complicated and frequently contradictory one so often seen employed.

For the sake of convenience I will divide the subject of the treatment of pneumonia into three sections. The first section relates to cases occurring in healthy persons, without distinction of ages. The disease is almost never fatal, and rarely attacks both lungs. The initial stage of the fever occupies from twenty-four to forty-eight hours; the fastigium, during which the temperature does not rise above 104° F., usually lasts seven days, at the end of which time the temperature suddenly falls to the normal point, or a little below it, the crisis occupying one, two, or rarely three days. The ratio between the rate of the respiration and that of the pulse (normally, one to four and a half) is not greater than one to three. There is but little appetite, and in young children usually none. An experience of many years in hospital and private practice has convinced me that these cases always do well without any special treatment, medicinal or dietetic. Sometimes an anodyne (Dover's powder or morphia) or a sedative (bromide or chloral) is useful to relieve pain or restlessness, or the solution of the acetate of ammonia may be given if the skin be hot and dry. As much water, not iced, should be allowed as the patient desires for drink. External applications are not needed, and all irritating epithems should be avoided, since counter-irritation only adds to the patient's suffering without modifying the self-limited process usually considered as "inflammation" of the lung. I am decidedly opposed to the application of poultices to the chest, especially "jacket" poultices. The fatigue and exposure caused by their frequent changing, and by their removal for the purpose of auscultation and percussion, are injurious; they are uncleanly, and possess no advantage, in my opinion, over a woolen jacket or waistcoat, or still better, one extemporized out of a sheet of wadding (not batting), to satisfy the prejudices of the patient's friends, who are too often, as in other cases, unconsciously his enemies. I would plead for little children, who like nothing so well as to be left undisturbed by officious ministration, requiring no nourishment beyond a little milk, with water at discretion. When the crisis comes food is readily taken.

If possible, the patient should lie on a single bed, so as to be easily handled by the nurse and physician. His clothing should be no heavier than is agreeable to him. Fresh air should be constantly admitted to the room, and a fire should be kept burning in the fire-place day and night, except when the weather is warm enough for open windows.

As to diet, the patient should not be urged to take more food than he likes. It is a common idea that he is in danger of sinking from exhaustion, and must be sustained by being constantly crammed with beef tea, milk, gruel, etc. In reality very little food is necessary during the short period of the acute stage, and nature declines to digest more than a small quantity, frequently rejecting from the stomach what has been swallowed. In the case of children, particularly, I have observed that there is a strong objection to taking nourishment, and that when this instinct is respected the patient does perfectly well; as soon as the temperature falls he asks for food. But I find great difficulty in making parents and nurses believe this, owing to a natural application of the modern supporting treatment, so useful in typhoid fever and other exhausting diseases, to acute and transient affections.

The second class of cases of pneumonia include those occurring in healthy subjects who are debilitated from various causes, such as old age, overwork, previous illness, etc. They are free from cachexia, and under appropriate treatment the majority recover, but the prognosis is much more doubtful than in the preceding class. The disease is apt to extend from one lung to the other (though this is by no means always fatal), the temperature falls more gradually than in uncomplicated cases, and convalescence is often more prolonged. The treatment should not, in my opinion, differ materially from that just described, except that alcohol is usually required, and digitalis is necessary if there should be signs of pulmonary obstruction from failure of the heart's action. Champagne usually agrees very well, but any other stimulant, if preferred by the patient, will answer. Brandy and carbonate of ammonia must be given when there is much exhaustion.

The third class of cases comprise those which occur in cachectic individuals. The great majority of the patients die, whatever treatment be adopted. They are generally intemperate, or are victims of chronic renal disease, or they are tuberculous; but patients already prostrated by grave acute disease, such as typhoid fever, variola, bronchitis, etc., although otherwise previously healthy, when attacked by pneumonia may also be unable to resist the intercurrent disease. The stage of hepatization is succeeded by purulent infiltration, and sometimes by gangrene, and death follows from asphyxia and exhaustion, usually with very high temperature, though sometimes without much elevation, as happened in two of the cases which I shall report. In these cases stimulants should be freely given; large doses of brandy are easily borne, and sometimes appear to save life. Nourishment in liquid form is also required, but seems less important than alcohol. External applications, those at least which require frequent changing, should be avoided, as the patient has no strength to spare.

Coca.

Dr. H. D. Dicks thus writes in the *N. Y. Med. Jour.*, Feb. 23d, 1884: Though several years have passed since coca has been introduced into medicine, I find, upon inquiry among my fellow-physicians, that its use is extremely limited. Many druggists do not keep it in stock, saying that they have no call for it. Some have obtained it for me, the only one prescribing it among the physicians sending recipes to their establishments, and I have found a few that confessed ignorance as to both its existence and uses.

I have used it both personally and in my practice, and find it of great service in the following conditions:

To prevent and relieve fatigue.

In those cases of backache accompanied by high-colored urine with excessive amounts of urates and uric acid.

In short breathing dependent upon weakness of the muscles of respiration.

Palpitation of the heart, without valvular lesion, due to dilatation or to weakness of the heart muscle.

It renews the vigor of the intellect, and relieves mental exhaustion, rendering the flow of thought more easy and the reasoning power more vigorous.

It dissipates "the blues," leaving the mind calm. By its use the depression following an indulgence in alcoholic liquors is relieved, and it invigorates the exhausted sexual function due to excesssive venery.

It destroys the craving for alcohol, and, in small doses, is useful in sick headache and headache resulting from over-exertion. Its habitual use as a part of the daily diet conduces to mental clearness and activity, freedom from fatigue, and sound sleep.

I have to relate three instances in which its action seems to me remarkable:

Case I. The first case is my own. When my attention was first called to the article, great stress was laid upon its power of preventing and relieving fatigue. At that time I was accustomed to take long walks about the country, and always came home quite fatigued. I procured some of the coca leaves and determined to give it a thorough trial. One fine autumn afternoon I started out and walked to a town eight or ten miles distant, and, without resting, began the homeward journey, at about one-third the distance of which I became as thoroughly exhausted as I ever remember to have been in my life. Literally, I was unable to go farther, my back and loins and the muscles of my legs being lame and painful. I had with me about one half or three quarters of an ounce of coca leaves, which I proceeded to chew and swallow. In less than twenty minutes all fatigue was gone, the pain in my back and legs had fled, and I started homeward at a swinging gait, arriving there as fresh as when I started. Ordinarily such a walk would have laid me up for two days, but the next morning saw me perfectly well and ready for another tramp. I have used it since on long tramps, with the effect of not becoming fatigued during even the longest.

Case II. A lady friend and patient is occupied during the months of August and September in the business of preserving the various fruits and vegetables for market. Hitherto at the end of the season she has been utterly worn out by her exertions, and an attack of illness has been the general result. During the last summer (1883), by my advice she used the fluid extract of coca whenever necessary to relieve her fatigue, and, though working harder than ever before, on account of an increased business, has by its use been enabled to pass the season without losing an appreciable amount of flesh, and without great fatigue. Previously she had been troubled with intolerable pain in the muscles of the arms and hands, which prevented sleep at night. This summer has seen a total abolition of this annoying symptom, and the nights have been passed in sound, refreshing sleep.

Case III. A physician, about sixty years of age, employed in clerical work, has been troubled since youth with a dilated heart without valvular lesion (the description of his symptoms is his own). The least hurry, exertion, or mental worry resulted in palpitation and dyspnœa. In Boston at various periods of the year we have very damp, oppressive weather, whether warm or cool, when the air is saturated with moisture. On such days even a well man is uncomfortable, but the gentleman above mentioned dreaded these days most of all, on account of the extreme distress arising from short breath, palpitation, and also faintness. His nights for the greater part of the time were almost sleepless, three or four hours at the utmost being his daily allowance of slumber. On account of this insomnia, the hours when others slept were devoted to labor, thus aggravating the trouble.

The only thing that would alleviate the oppression was whisky. Digitalis, even in the smallest doses, so excited the irritable heart that its action became so violent that respiration was seriously compromised. Hyoscyamus, too, was of no avail. Several times he has fallen insensible, and once or twice has been revived only with great difficulty and prolonged exertions. At the periods of attack of palpitation and dyspnœa the stomach was unable to digest food.

On the whole, his condition was serious, and though he was able to attend to his work, he expected at any moment to be taken away.

About two months since I recommended him to take the coca, and soon after he obtained both the leaves and the fluid extract. After taking it for a few days he told me, on a close, damp day, such as formerly caused him the greatest suffering, "I don't know that I have a heart." Since that time, though we have had bad weather, he tells me that he has not experienced the least trouble. From being an anxious, quiet man, he has become cheerful and companionable. His appetite has improved and he has gained flesh. He has no need for stimulants, and the craving for alcohol has left him altogether. Instead of passing the greater portion of the night in work, he spends it in sleep. To illustrate this: One night he had worked until about twelve o'clock, and thought to lie down upon the lounge, rest a few minutes, and then resume his occupation. He fell asleep, and woke up at six o'clock in the morning, the first time he had slept so long at one time for years.

I do not doubt but many of your readers can relate parallel cases. I am using it in all cases in which the balance between nourishment and waste is not maintained, and find it a valuable assistance. In regard to the dose, I think that the one generally given on the bottles, viz., ʒi—iv—is too much. I find just as good effects from ʒss. for an adult.

Vaseline and Glycerine in Ointments.

Dr. James G. Kiernan thus writes in the *Druggist*, December, 1883: In regard to this question now assuming no inconsiderable degree of importance, Hager[*] states that "the use of vaseline (cosmoline) in place of lard or an ointment in such mixtures which contain a remedial agent intended for absorption by the skin, is much to be discouraged, as vaseline (cosmoline) prevents the absorption thereof."

Shoemaker[†] is of opinion that "they (cosmoline and vaseline) even possess feebler power to penetrate the skin, if any at all, than animal fats which have more affinity for the integument. They are also simply melted by the temperature of the parts, and run off largely on the surrounding surface, and will thoroughly saturate all the linen brought in contact with them. Further, the petroleum products retain some stimulating constituent left after their manufacture, which will prevent them from having an emollient action, and which proves a very great hindrance to their use as external remedies, providing you wish to soothe and allay active inflammation. In addition to this I will state that the craze for these paraffinate or petroleum products seems gradually on the wane, not only here, but also in Europe. In investigating this subject, I have found that their absorptive power for a penetrating action into the skin, is so feeble as to almost cause them to be excluded as such. Irritant ointments of veratria and other substances which I had made respectively of cosmoline, vaseline, and of simple cerate, manifested themselves in the former two preparations as almost inert; while the activity of that made with simple cerate very soon became evident."

Vigier[‡] finds that ointments made with glycerine are not suitable for other than local application. He found that after rubbing the skin with a ten to thirty glycerin solution of potassium iodide, iodine was not to be detected in the urine. A solution of one part of morphine hydrochlorate in twenty of glycerin had no narcotic effect. On the use of a fatty preparation of potassium iodide, iodine was to be found in the urine and narcotism was produced by a fatty morphine preparation. A one per cent. glycerine solution of atropine was without effect on the pupil when rubbed on the temple, while an oleate had a very decided effect. He found also that on dissolving five parts of corrosive sublimate in one hundred of glycerin, and rubbing it well in, the skin was not reddened, and mercury was not to be detected in the urine.

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[*] Pharmaceutische Praxis.

[†] Transactions of Pennsylvania State Society, 1883.

[‡] Gazctte Hebdomadaire, 1883.

On testing this question on dogs and on myself with vaseline ointments, I am fully prepared to confirm Shoemaker's conclusions. On making a five to thirty vaseline ointment of potassium iodide and rubbing it into my neck and thighs, I could not detect either in the urine or saliva any trace of iodine; on repeating this experiment in a dog the same result occurred. The following day these experiments were repeated with a lard ointment, and iodine was to be detected in very decided quantities in the saliva and urine of myself and the same canine. The use of an atropine vaseline ointment had no effect on the pupils of either the canine or myself, while the action of an oleate or a lard ointment was very decided. The ordinary blue ointment of the pharmacopœia, well rubbed in, resulted in the finding of mercury in the urine of myself and the canine, while the vaseline mercurial ointment had no such effect. The use of a vaseline strychnine ointment had no effect on the canine, while the same quantity of strychnine in a lard ointment produced very decided effects in respect to tetanizing the animal. A mixture of one-third fluid extract of conium and two-thirds vaseline was, when well rubbed in, without effect on the strychnine symptoms, while the same proportions of fluid extract of conium and lard controlled them in a very decided manner. From my own results, those of Vigier and those of Shoemaker, I should be inclined to conclude that while vaseline and glycerine ointments might be of some value as purely local applications, as in insecticide preparations, such excipients should not be used in cases where the drugs incorporated in the excipient are to be absorbed.

Sulphide of Calcium in Scabies.

In the *Brit. Med. Jour.*, Feb. 9, 1884, Dr. THOMAS M. DOLAN says: In some of the most recent works on medicine, I find that sulphur-ointment alone is suggested as a remedy for scabies. Thus, in a work which has gained for itself a world-wide reputation, Quain's *Dictionary of Medicine*, the line of treatment is laid down as follows:

"In order to cure an ordinary case of scabies, it is simply necessary that the patient before going to bed should thoroughly apply, and gently rub in, sulphur-ointment to every part of the body, excepting the skin of the face and scalp; and in order to keep the ointment in contact with the skin, he should sleep in his underclothes, such as drawers, jersey, shirt, and gloves, and in the morning take a warm bath. The process should be repeated the next night, after which the ointment should be used every night for a week or ten days to those parts of the body only which are specially attacked."

All who have to deal with scabies—as medical officers of industrial schools and poor-law medical officers—will agree with me that such a method of treatment is not only unnecessary, but tedious, disagreeable, and expensive. It would be impossible to apply it in the majority of cases.

In some recent text-books on therapeutics and materia medica, sulphur-ointment is also recognized as the treatment for scabies. In consequence of this, I have been induced to bring the treatment of scabies before the Section, in order to give a practical hint on a line of treatment which recommends itself on the grounds of efficiency, economy, and rapidity of cure. It is not by any means a new method, but it does not appear to me to be sufficiently known or appreciated. It is the treatment by sulphide of calcium. This name is also applied to a powder, the pills of which, in small doses, are very useful in the treatment of boils. The preparation used is in a liquid form, and from its color, is known in the army and in the poor-law service as golden lotion. It may be made from the following formula: Flower of sulphur, 100 parts; quicklime, 200 parts; water, 1,000 parts. Boil the whole for some time, stirring occasionally until the substances become incorporated, allow the liquid to cool, and decant into hermetically sealed bottles. It should not be made in a metal vessel; and as in the process of making the smell is not agreeable, care should be taken in this respect.

There is a great difference in the preparations in the market. The best preparations I have met with, I have obtained from Richardson and Son, Leicester; Clarke, Bleasdale, Bell, and Tollington, of York.

The method of application is as follows. The patient is first put into a warm bath; he is then painted with a brush dipped in the solution, and placed in bed, either in blankets or in a flannel night-gown made for the purpose. After a short time, owing to the deposit of the sulphur, the patient's body is almost of the color of a guinea. The beneficial effects are speedily manifested; the itching ceases, and, as a rule, in simple cases, after another warm bath the patient may be discharged cured.

In long-standing neglected cases, the duration of treatment would be longer, as the scales and crusts produced by itching and neglect have to fall off. Scabies underlies many of the forms of skin disease seen in poor-law practice, and this is a practical point to bear in mind. I have used the sulphide of calcium since 1869, when I first entered the poor-law medical service. I have since treated some thousands of cases, using the sulphide alone. My experience enables me to testify to the accuracy of Dr. Bourguignon's statement that it is a specific for scabies. It has the following merits: it is a clean application—different in this respect from the sulphur-ointment; it is easy of application, and will penetrate—here again it has an advantage over the sulphur-ointment; it is cheap and speedy in its action; one or two applications will, as a rule, be sufficient; it does not require the destruction of any clothing, nor the complicated process described by Dr. Liveing in Quain's *Dictionary of Medicine.* At the end of the short article from which I have quoted, Dr. Liveing briefly alludes to this method, and says: "This lotion is effective, but it is apt to irritate the skin, and is not so generally useful as the sulphur-ointment." In a small number of cases, the use of this remedy causes roughness of the skin. Its over-use or abuse produces troublesome irritation of the skin. This may be at once remedied: the patient should be ordered a bath of soda and water, when all ill effects will speedily disappear.

The sulphur-ointment should be expunged from our text-books as an obsolete form of treatment. The sulphide of calcium should take its place. I believe it is used in the army in England and on the Continent, and generally throughout the poor-law medical service; so that my testimony is not singular as to its value.

Abrus Precatorius, L. (Indian Liquorice, Pater Noster Beans, Jequirity, Black-eyed Susans, etc.)

We take the following from the *Boston M. and S. Jour.*, February 28, 1882: This plant is by no mean new to botanists, nor its products to commerce. It was named by Linné, and has had a place in the pharmacopœias of India for forty years, the root, however, being the only part used in medicine. It is a papilionaceous plant, doubtfully placed in the tribe *Viciæ* of the order *Leguminosæ*, a small woody twiner with abruptly pinnate, many-pinnuled leaves, and rose-colored flowers in rather close racemes. The pods are smaller than those of the sweet pea, clustered, four to six seeded. The seeds, considerably smaller than the pea seeds, are roundish ovoid, of a brilliant scarlet color, with a black patch around the hilum, covering about one-third of the surface; they are hard and beautifully polished. The plant is indigenous in India, but is found in almost all tropical countries, probably introduced.

The root is used to a small extent in India as a poor substitute for liquorice root. The seeds are used as toys or strung into necklaces or rosaries. They are favorite curiosities with our sailors, and as a consequence were often seen in our sea-ports long before they had any commercial value here.

A full botanical description of the plant, with plate, may be seen in Bentley and Trimen's Medicinal Plants, and of the root, "*Radix Abri*," in the Pharmacographia.

The root as well as the leaves contains a sweet principle resembling liquorice, and is destitute of any poisonous or deleterious quality. The seeds have not been thoroughly examined, but are non-poisonous, and have even been used in Egypt as food.

The present interest in the plant centres, however, in the application of the seeds, in infusion or decoction, to trachomatous eyes, for the purpose of producing a substitutive conjunctivitis. According to Dr. Moura, Brazil, the seeds have been employed for many years in the Brazilian provinces of Ceará and Piauhy for chronic granular conjunctivitis. They are usually prepared by soaking them for a few hours in boiling water, or for a few days in cold water, then blanched, and the kernel reduced to a fine powder, which is macerated for twenty-four hours and filtered. This liquid is applied beneath the eyelids three times a day. The proportion of one part of *jequirity* to twenty of water, the skin and radicle being removed, produces a moderate inflammation; but if all the parts of the seed are used the irritation is most intense.

Dr. Silva found what he supposed to be conidia of some fungus in the fresh infusion, and the mycelium and spores of the same in an older specimen. The same organisms were found in and could be developed from the conjunctival products.*

It was introduced into European practice by M. de Wecker, who received a sample of seeds from a patient who, after a long and unsuccessful treatment in Paris, returned to Brazil, and was there cured by this local remedy. The directions accompanying the sample were the following: Take thirty-two seeds (about three grammes), macerate them for twenty-four hours in five hundred cubic centimeters of cold water, then add the same quantity of warm water, filter, and the fluid is ready for use. The infusion changes from green to brown, and finally to yellow, without, however, becoming completely putrid.

Professor Sattler (Sadtler?) found that the symptoms did not vary greatly with the strength of the infusions, a one-half per cent. solution producing symptoms almost as severe as one ten times as strong, but that a fresh preparation was much more efficient than one forty-eight hours old, and one prepared at the ordinary temperature than one prepared at a considerably higher one (85° F. to 96° F.). The decoction of the pulverized seeds he found to be inoperative.

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* New Remedies.

The symptoms following the use of jequirity are as follows: The application is painless, and for several hours no sensations follow, then a sense of fullness followed by injection of the conjunctiva and lachrymation appear; then a thin film forms upon the conjunctival surfaces, which, however, is superficial, and can be wiped off without hæmorrhage. By the next day the eyelids are swollen and closed, and the conjunctiva is covered with lymph and pus. General disturbance is often present to a considerable degree, and restlessness and pain almost always. Coryza is a not infrequent accompaniment. This condition lasts five or six days, and then gradually disappears. The cornea is not apt to be, but is occasionally attacked. As the traumatic inflammation passes away, the chronic trouble is found to be very much improved.

Treatment of the Commoner Symptoms of Phthisis.

Dr. C. M. Cauldwell thus writes in the *Med. Record*, March 1, 1884:

Coughs.—Oxalate of cerium has been used in seventy cases as a cough palliative, and has rendered excellent service in relieving this most troublesome symptom of phthisis. It has one marked advantage over the drugs usually prescribed for the alleviation of cough, namely, that of never disturbing either appetite or digestion. Its good effects were especially noticeable in those cases where severe paroxysms of coughing, with or without vomiting, followed the ingestion of food. Where the cough was troublesome during the day, the drug was given in ten-grain doses every few hours; but if coughing occurred principally at night, then thirty grains were given at bedtime and repeated before morning if necessary. When oxalate of cerium alone failed, the desired effect was often obtained by combining it with chloral hydrate or spirits of chloroform.

Night-sweats.—The following combination of chinoidine and atropine has been used in thirty cases of night-sweats occurring in patients suffering with phthisis in both early and late stages. The annoying and debilitating perspirations were not only controlled during the administration of the drugs, but in a large number of cases did not return after the treatment had been discontinued. The formulæ used were:

℞. Pulv. chinoidin. purif . . . . gr. xij.
Atropiæ sulphat. . . . . gr. $\frac{1}{30}$.
M. Ft. capsulæ No. 2.

Sig.—One the first night, and one three nights later.

℞. Pulv. chinoidin. purif. . . . . ʒj.
Ft. pil. No. 12.

Sig.—One pill every night that the capsules are not taken.

The advantages of this combination over either atropine or quinine, as usually prescribed, are thought to be: (1) the greater permanency of effect; (2) the freedom from unpleasant symptoms often produced by the other drugs; (3) the comparatively small amount of medicine necessary; (4) the very moderate expense as compared with quinine. When this plan of treatment was contraindicated, or gave only temporary relief, picrotoxin produced excellent results. It was administered in gelatine-coated pellets of one-eightieth to one-fortieth of a grain, at bedtime, and either entirely suspended or greatly diminished the sweating in every case in which it was prescribed.

Diarrhœa.—Of the various remedies tried in the treatment of over seventy cases of diarrhœa in consumptives, bismuth was found the most generally useful. In slight attacks, due to indigestion, etc., it was preceded by a mild laxative and given in twenty- to thirty-grain doses every two hours. In the severe forms of diarrhœa accompanied by symptoms of intestinal irritation or inflammation, a combination of twenty grains of bismuth with one-half grain of opium was given every two or three hours, with satisfactory results in the great majority of cases. A number of apparently hopeless cases entirely recovered from profuse watery diarrhœa when treated with *coto-bark.* The formula used was:

℞.	Extr. coto. fl.,		
	Tr. cardamom. co	āā	ʒ j.
	Mucil. acaciæ		ʒ iij.
	Glycerine		ʒ ij.
	Aq.	q. s. ad	℥ vj.

M. S.—Half ounce every hour.

Hæmoptysis.—The following method of using hamamelis, or morphine and hamamelis, has given much more satisfactory results in the hæmoptysis of phthisis than any other combination of drugs used in this institution. Unlike ergot, lead, veratrum, etc., hamamelis does not disturb the appetite or digestion, but apparently diminishes cough and quiets the nervous system. Severe hemorrhages were treated with a single small hypodermic of morphine, followed by one-half drachm of distilled extract of hamamelis, repeated every half hour. Ordinary attacks of hæmoptysis were controlled by hamamelis alone, given in the same dose, but at longer intervals. Patients suffering from rapidly recurring hemorrhages were promptly rid of their tendency to hæmoptysis when kept upon the distilled extract for several weeks.

Bimuriate of Quinia and Urea.

The *Polyclinic*, Feb. 15, 1884, says: We are able to supplement last month's contribution to the therapeutic history of this drug in malarial fevers, with notes of two cases reported by Dr. S. Solis Cohen, of the *Polyclinic* staff; one from the out-door service of the Polyclinic, the other from private practice.

CASE 1.—Peter K., aged 50 years, married, formerly private in the U. S. Army, was at one time of intemperate habits, but for the last five years has restricted himself to one or two glasses of beer daily. Has been unable to work for a year. General appearance is that of a subject of chronic alcoholism. Had been under treatment in the Medical Department of the Polyclinic for sclerosis of the liver. For the last three weeks had had daily chills, but was occasionally able to go out of doors during intermissions. For five days preceding his reference to the reporter, had been confined to the house, with two chills a day, the first occurring about 3 o'clock a. m., the second about 6 o'clock p. m. Proper attention being paid to the secretions, sulphate of cinchona, dextro-quinine, and sulphate of quinine were successively tried; in each instance sixty grains *per diem* being given, in three doses, properly timed. The cinchona was without effect. The dextro-quinine reduced the number of chills to one *per diem* (morning). The quinine failed to do more. On the fifth day (Jan. 6), fifteen grains of the bimuriate of quinia and urea were administered hypodermically. There has been no subsequent chill. The disagreeable sensations of vertigo and ringing in the ears, produced by the large doses of quinine and dextro-quinine, disappeared after resort to the bimuriate of quinia and urea.

Case II.—Mrs. M. G., aged 22 years, seven months pregnant, was seen by the reporter on the second day of an attack of remittent fever, during the remission. There was no question of diagnosis. Temperature, at the time of the hypodermatic injection of ten grains of bimuriate of quinia and urea, was 100.2° F. When seen the next morning, at 10 o'clock, the patient reported a good night's rest, and relief of headache. The temperature was normal, and did not again rise. The tongue was still coated, and gastric distress persisted. The bowels were constipated. Under restricted diet and moderate doses of calomel, these symptoms ameliorated, and in a week the patient was perfectly well, though weak.

In both of these cases the arm became sore. In case No. 1, the point of puncture by the needle of the hypodermatic syringe, was of a livid hue, and was surrounded by an areola of gradually diminishing redness, covering an area about equal at first to the size of a silver dollar; but increasing within twenty-four hours to double that size. Under the application of lead water and laudanum, the soreness gradually disappeared. At first, slight discomfort of itching sensations was experienced, but this did not long persist.

In Case No. 2, the point of puncture was marked by a white, dead-looking spot, surrounded by an areola of vivid red, the whole occupying about the space of a silver quarter-of-a-dollar. There was neither pain nor itching, though tenderness was manifested upon pressure. The central spot was completely anæsthetic. Despite lead water and laudanum, considerable hard, indurated swelling took place. At no time was there heat or fluctuation, nor did an exploring needle reveal the presence of pus. Warm poulticing, followed by applications of tincture of iodine, reduced the swelling, and on the tenth day the central dead tissue separated as a superficial slough, leaving a shallow ulcer about the size of a silver three-cent piece, which soon healed.

In other cases which have come under the reporter's observation, sore arms have likewise followed the injections, and it is therefore evident that great care is necessary to avoid contact of the solution with any portion of the skin; and that even with every precaution, it may become necessary to watch and to treat the arm as well as the fever. This need not deter us, however, from making use of a valuable drug. In view of the beneficial influence exerted upon the disease, a possible sore arm becomes a minor evil.

Practical Note on the Management of Chorea.

In the *Weekly Med. Review*, Dr. C. H. HUGHES, of St. Louis, says: In the management of chorea it is essential to make a prompt and thorough cure of the first attack, if possible; for while benignant nature often supplies an efficient therapy for this disease, she more often fails, and violent cases may die or pass on to choreaic insanity, and the less violent in the beginning may, without medical interference, become paralytic or a chronic habit, and if recovery does eventually take place, a latent diathetic condition of the voluntary nerve centers may become a part of the patient's constitution, to reappear whenever subsequent neuratrophic conditions exist in the patient. In the management of this affection, therefore, no plan could be more prejudicial to the real welfare of the patient, present or future, than the so-called expectant plan, a most pernicious plan when carried out in many other diseases as well as in chorea, and only justifiable when we are in doubt as to the proper therapeutic measures to be employed. He who has become familiar with the possibilities of chorea from observation of a large number of cases, will never counsel expectancy, or be satisfied with letting the disease wear itself out, if he can do better by more efficient treatment.

An essential therapeutic procedure in a large majority of cases, promotive of a tendency to recovery, is the removal of the child from home and the unsanitary surroundings (speaking in a neurological sense), under which the morbid condition has been engendered.

The change from usual environment should be agreeably diverting to the patient and calculated to call into exercise the volitional powers, while being of such a sanitary character as to be promotive of exalted nutrition, invigorating sleep, mental tranquilization and hæmic enrichment. Pure air, free sunlight, and an agreeable temperature, should be sought in making the change.

Despite the theories that have been advanced of the dependence of chorea upon rheumatism, based upon its frequent association with antecedent rheumatic fever and co-existent cardiac bruit, it will be found to often follow after a scarlatina, aggravated measles, whooping-cough or other cause of depressed vitality, if of sufficient intensity to implicate the stamina of the cerebro-spinal axis in such as possess inherent neuropathic tendencies. It is often associated with hysteria and epilepsy. For all the cases put forth by Mr. Hughlings Jackson and Dr. Kirkes to show that the origin of the trouble is rheumatic, other cases can be offered to show the non-existence of previous rheumatism, though rheumatism is markedly if not primarily a disease of the nervous system, as a careful examination of all the facts will show (which it would be out of place here to present); and it should not, therefore, be strange to find rheumatism as one of the links in the chain of nervous phenomena, and that chorea is not unfrequently the neuratrophic substratum, just as the lesion of the trophic nervous system which underlies rheumatism may give rise, and does sometimes, to the phenomena of chorea.

The essential neuropathic condition of chorea is a neuratrophia and consequent instability of the cerebro-spinal motor area, seldom grave enough to be considered organic, strictly speaking, though in a sense or degree we must concede that all disease is organic, and the *post mortem* changes that have been found in the corpora striata, cortex, and elsewhere in the brain, such as erosions, hæmorrhages, etc., in the fatal cases, are sufficient to satisfy us that in many cases the lesion is grossly structural, through hyperæmia and irritation of the motor area of the cortex and subjacent portions of the brain and cord are often primarily at fault, and this is obviously due to atonic vaso-motor conditions. Beginning in the motor area of the brain and cord, chorea may in its progress, and often does, invade the psychical sensory regions, giving rise to imbecile and insane states, and anæsthesia.

To treat chorea successfully, therefore, we should suppress, as far as we can, involuntary movement from the very beginning, by giving the child the necessary moral encouragement and strengthening its will-power by surrounding the child with new demands upon its attention and volition, as well as by medication. The sympathetic treatment that fosters hysteria is equally objectionable in chorea. The child wants encouragement that it may not yield any more of its control than it is obliged to, in order that it may not become discouraged and give up entirely to the erratic movements. The will should be made to pass even, though ever so imperfectly, over the channels of motor nerve conduction, so that the "insanity of the muscles" may not become complete, pending our efforts at physiological reconstruction.

The medical treatment should be descending cerebro-spinal galvanism and arsenic, to restore trophic nerve power and tranquilize the psycho-motor area, chloral hydrate and sodium, bromide in moderation, especially at night, to secure complete cerebro-spinal rest, and the neurotic and hæmatic tonics, iron, the hypophosphates, zinc, cod-liver oil and strychnia, the latter very sparingly. A milk diet is preferable to all other simple substances, but the patient should be fed on a generous variety of food.

After the involuntary tumult of the muscles has subsided, the physician should still look after the patient until a reassuring vigor of constitution is established, and such advice should be given as will tend to promote continued growth in new strength, and give the best assurance against the return of this singular and sometimes formidable expression of nerve irritability.

If we watch our patients closely we shall find some of them troubled with symptoms of laryngeal nerve-irritation and spasms. When the spasm is not great enough to attract our attention in the day time, we may often learn of its existence from statements made by the patient or nurse in regard to the child's having a troublesome night-cough.

I do not know why the cough should appear at night and be absent all day. I have seen it regularly recur at bed time and continue through the night, to the great disturbance of the patient's rest.

Epithelioma of the Nose Treated with Arsenic Paste and Healed under Poultices.

In the *N. Carolina Med. Jour.*, Dr. A. H. Goelet, of New York, thus writes:

Mr. H., of North Carolina, applied to me (October 10, 1883), for treatment of a troublesome sore on the bridge of the nose to the right of the median line, which had existed for three years, commencing as a small pimple. He had resorted to almost every means to heal it, without success.

When seen it was the size of a ten-cent silver piece, with elevated hard edges, and scooped out centre, with a disposition to scab; and exuded a thin serous fluid. When irritated the discharge became purulent and occasionally colored with blood. At one time it had spread downwards a little way, and this portion had skinned over, but with a thin unhealthy skin which was easily broken down.

He presented himself for treatment Oct. 26th, and it was decided to use a paste of arsenious acid, and pulv. tragacanth, equal parts by weight, formed into a paste with water; the slough to be treated with poultices of flaxseed meal and these to be continued until healing is complete. There has been no return of the disease after this treatment.

The treatment ordinarily resorted to in these cases, viz: the actual cautery, the curette, or scoop, and chemical caustics, followed by a rapid healing process, while successful as an operation, in that healing may always be obtained, is not always followed by good result. There is frequently a return of the epithelioma, and for the reason that we can never be sure of the removal of all of the diseased tissue, by these means. In the rapid healing process, the diseased tissue left behind is covered up, and in time there will be a return of the trouble.

The caustics used in the present case will attack and break down every particle of diseased tissue if carefully applied, and the slow process of healing under poultices causes the resulting sore to throw off any portion which may be left behind.

While less painful as an operation (requiring no anæsthetic) it is a very much longer and more disagreeable mode of treatment, taking from three to four weeks, and the poultices must be constantly renewed.

About 2 p. m., October 26th, the paste was applied, great care being taken to cover every portion of diseased tissue, including all of the elevated border. Afterwards a piece of cotton (not absorbent) just the size of the space covered by the paste and thick enough to absorb the serum which will exude through the paste when it commences to act, is applied over the paste and the whole left on for 18 or 24 hours, according to the depth of the sore and the age of the patient. (Absorbent cotton would absorb too rapidly).

The cotton must not project beyond the paste, and the discharge must be kept off the surrounding healthy skin.

Very little pain was experienced during the first six hours, but during these the pain, while not severe, was very annoying, and kept the patient awake.

The next morning, about eighteen hours after the application of the paste, the face on that side was considerably swollen and the eye somewhat closed, but the pain had ceased.

Poulticing was commenced now and applied in rather a novel way. A small bag was made of a piece of solid silk the size of the palm of the hand, cut round and having a draw-string run around its edge to draw it together. This was filled with the poultice and the mouth of the bag drawn almost together, leaving an opening just the size of the surface to be covered.

This is flattened out and applied over cotton and all, and held in position by strips of adhesive plaster; and a handkerchief tied around his head over all.

The cotton will usually come away with the first or second poultice, and in about a week the slough will separate, leaving a healthy granulating surface which will discharge pus in a great quantity.

In a few days after the poulticing was commenced, the swelling left the eye and the face resumed its natural appearance.

At the end of a week the slough separated, leaving a fresh healthy-looking surface, not deep but nearly the size of a silver quarter. Poultices were applied every two hours during the day and two or three times during the night, and continued after the separation of the slough.

Frequent changing of the poultices is very necessary, both on account of cleanliness and to maintain warmth.

The surface immediately commenced to fill in around the margins, and at the end of three weeks there was only a surface about the size of a split pea, which was still discharging pus. During the last week of the treatment nitrate of silver had to be applied once or twice to granulations which were too free.

November 22d, the poulticing was discontinued, as the healing was complete and there was nothing left but a white scar which was not noticeable at a distance.

The Treatment of Ulcers.

In the *Canada Lancet*, March, 1884, Dr. A. C. Angus says: To describe ulcers in all of their details, as to etiology, nosology, pathology, etc., would be to write a book, hence in this article I wish to confine myself solely to the treatment of ulcers.

Ulcers in years past (especially chronic ulcers) have been the opprobrium medicorum. In every community are to be found persons suffering from ulcers. In many cases these have been treated by various kinds of ointments, and finally after months and years of fruitless effort to cure them, the patient's have been told not to heal them, for "as sure as you do, it will go to your lungs." I find it to be a popular notion that the cure of ulcers is detrimental to the health. As a result of these erroneous impressions, there are persons who suffer from chronic ulcers for years, and even a lifetime, without attempting to obtain relief. In standard works on surgery, ulcers are divided into various classes; but as all ulcers are merely so many forms of inflammation with solution of continuity of the soft parts, and with formation and destruction of normal elements, the most rational classification, it seems to me, that can be adopted is into *acute* and *chronic ulcers.* In order to give my method of treatment, I shall describe one or two typical cases which I have met with in practice.

Case I.—Wm. B., aged 32, printer and mechanic. Saw him first on the 27th of August 1883. Upon enquiry I found the family history good. The ulcer was situated just above the ankle-joint. When first seen by me it presented the following appearance: ulcer extended half way around the leg; deep ragged edges; the surface covered with a quantity of pus; leg considerably swollen; edges of the ulcer extremely hard. As the patient was anæmic I ordered a mixture of iron and quinine, followed by cod liver oil and Fowler's solution. Locally I applied a poultice for twenty-four hours, then a solution of carbolic acid (1 to 35) to be used with an atomizer, the spray to be blown strongly under the edges of the ulcer, and all over its surface until thoroughly cleansed. No sponge or cloth should be used to cleanse the surface of an ulcer. The leg being very much swollen, I applied tincture of iodine very freely until it was reduced to its natural size; also painted the surface of the ulcer a number of times with tincture of iodine, which satisfactorily diminished the discharge. Subsequently I used a cloth oiled with vaseline and carbolic acid. The leg was kept perfectly at rest, elevated, and equable pressure maintained by means of a well-fitting elastic stocking. In one month the ulcer was entirely healed.

Case II.—Wm. A., aged 51, mechanic and farmer. Family history good. He had two chronic ulcers 5 by 3 inches, situated one on the outer, and the other on the inner side of the leg, lower third. Ulcers deep; edges callous and ragged; surface partly covered with pale unhealthy granulations, exuding a thin sanious pus. The leg was greatly swollen, and had a dark mottled appearance. The internal treatment was the same as in Case I. Also the same treatment locally, with the exception of the use of iodoform ointment instead of tincture of iodine. One of the ulcers did not heal kindly. It progressed favorably for a time and then came to a stand-still. I cauterized with solid nitrate of silver and applied a poultice for 24 hours, after which I used iodoform ointment and then resumed former treatment. In less than six months from the commencement of treatment the ulcers were healed. The points which I wish to insist upon in the treatment of ulcers, especially chronic, are these: 1.—Rest to the affected part. 2.—The use of the atomizer with an antiseptic solution to stimulate and cleanse, thus avoiding the breaking down of the weak granulations in dressing. 3.—The occasional use of strong stimulants to the surface of the ulcer. 4.—When practicable, the use of well-regulated pressure with elastic bandages. 5.—Such internal treatment as may be indicated. 6.—To quote from Westminster Shorter Catechism, "Perseverance therein to the end."

Lythrum Salicaria.

From an exchange we learn that Dr. Campardon, in the *Bulletin Général de Thérapeutique*, extols the use of this remedy very highly in acute or chronic inflammation of the gastro-intestinal mucous membrane. In his opinion, the previous want of success in its use has been due to the way in which it has been prepared; as for example, it has been used more as a decoction than as an infusion—containing tannin and a large proportion of mucilage, as it does, a prolonged *coction* would destroy the mucilage. He cites cases of dysentery, of acute and chronic diarrhœa, particularly dependent on an atonic condition of the intestine—or as observed in the convalescence of typhoid fever, and in the diarrhœa of children occurring in the course of dentition, where he has readily and easily checked the disorder. The drug has shown that it not only has a slightly astringent character, due to the tannin, but also that the mucilage quiets the pain, modifies the secretions, and manifests a general sedative action. The effect of the drug does not seem to be to produce the dry, painful constipation, as with bismuth, for example, but rather to restore the condition of the bowels and stools to their natural state. An excessive dose (ten to twelve grams per day) will prodce a gastric disturbance, giving the mouth a taste of the drug, an increase in the number of passages to sometimes six per day, and a diminution of the appetite. In affections of the buccal mucous membrane, as ulitis and aphthæ, the tincture of lythrum has been very serviceable. In coryza, acute vaginitis with hypersecretion, chronic catarrhal vaginitis, vulvar prurigo, eczema and intertrigo, the drug, powdered and applied locally, has proved beneficial. In the acute stage of varicose ulcers, the powder of lythrum has lowered the temperature, relieved pain, and hastened the formation of the cicatricial pellicle; the ulcer being washed morning and evening with a strong infusion of lythrum, and the powder renewed daily over the surface of the ulcer. Its use has been recommended in hæmoptysis, but Dr. Campardon tried it in several cases without success. The preparations are:

Infusion—thirty to forty grams of the leaves and incised stalks to one thousand grams of water.

Powder—three to five grams in twenty-four hours, one gram in a wafer as a dose. The highest dose used was eight grams, in a case of chronic diarrhœa of four months' standing, which was relieved in less than three weeks.

Extract—two to four grams a day, in solution; children take readily a syrup made of one gram of the extract to thirty grams of syrup, given by the coffee-spoonful each hour. The extract mixed with the powder to form pills of twenty centigrams each, is more acceptable to some persons than the powder alone.

Tincture—twenty drops on a lump of sugar, four or five times a day.

For external use—three to four or five tablespoonfuls in a sufficient quantity of water to form an injection or lotion—or, dissolved in the tincture of salicylic acid (one gram to twenty-five grams), two or three tablespoonfuls in a sufficient quantity of water as an injection or lotion.

Nitrous Oxide for Anæsthesia.

The *Weekly Med. Review* says the application of nitrous oxide and air, or nitrous oxide and oxygen, under pressure, to produce anæsthesia for surgical operations, was discussed in a somewhat naïve style before the American Association for the Advancement of Science. The author seems to speak with the most implicit confidence that the mixture he speaks of will soon "supplant ether and chloroform, at least, in hospital and city practice." Speaking of certain operations in Paris with the use of the mixture he says, "all these operations succeeded" perfectly, and further on he says, "the surgeons of Paris have now performed several hundred operations (in Paul Bert's metallic chamber), which have all been crowned with the most brilliant success." These operations are said to have taken place in the years 1879 and 1880. We saw a great number of operations in Paris in 1882, and had the privilege of seeing Paen (one of the surgeons he refers to as having used it), operate frequently in public and several times in private; but we saw nothing of Paul Bert's metallic chamber. If it was so desirable a method of administering anæsthetics, one would have expected it to have made some headway in the course of two years. It happens, however, that the same mail brings us a note in the Revue Médicale, the substance of which is as follows: We did not intend to return to the anæsthetic apparatus of Paul Bert, for we have said sufficient to edify our readers on the subject; but we cannot allow them to be ignorant of the fact that two of our most distinguished surgeons, Messrs. Gosselin and Richet, have thought it necessary to protest against such a dangerous device. The substance of M. Richet's protest is as follows: 1. He went to the Saint Louis hospital to see the apparatus used, and that contrary to the assertions of P. B., one case in three was accompanied with vomiting, discomfort, and, on one occasion, with great excitement. 2. That the apparatus had been used in London for fifteen years, but was given up on account of the frequent accidents. 3. That both the surgeons referred to prefer the simple use of chloroform. In view of such remarks relative to the apparatus, we think we are justified in saying that the tenth conclusion by Dr. E. P. Howland, namely, that "In all that concerns the application of nitrous oxide and oxygen to surgery, the scientific phase may be said to be exhausted, and this anæsthetic can and should be henceforth used for operations of indefinite duration instead of ether or chloroform," is somewhat naïve in its claims.

Croton Oil.

In the *Lancet*, January 5, 1884, we read the investigations of Mr. **Harold Senier**, Fellow of the Chemical Society, into the active principles of croton oil which are not without considerable interest to the physician. Mr. Senier read to the Pharmaceutical Society on December 5th a paper in two parts—one on the vesicating principle in croton oil, the other on the purgative principle in croton oil. In 1878, in a former paper, he gave the results of an investigation into the action of alcohol on croton oil, and showed that under certain conditions it separated the oil into two parts—the one part vesicating, the other non-vesicating. The non-vesicating oil Mr. Senier has since shown to be purgative. The conditions referred to are that the alcohol shall be of specific gravity .794 to .800, and in the proportion of seven volumes to six, or any larger proportion. If the alcohol and oil are mixed in equal volumes perfect solution takes place, and this holds of a mixture with any less quantity of alcohol. But when the volume of alcohol exceeds that of croton oil, a part of the croton oil separates. This part varies in quantity in different samples of the oil. The part so separated is afterwards insoluble in any proportion of alcohol. But that portion of oil dissolved by alcohol is, when separated, soluble in all proportions. Mr. Senier has found that the part soluble in alcohol as above used was, or contained, the vesicating principle and that the vesicating activity does not exist in the free acids, nor in any basic constituent, but resides in the combined non-volatile fatty acids. Mr. Senier further finds that the purgative constituent does not reside in the alcohol-soluble vesicating oil, but entirely in the alcohol non-soluble, non-vesicating oil. In support of this conclusion he refers in his paper to experiments on himself and others. He further says that the conclusion is borne out by a study of the therapeutic action of this non-vesicating oil by Dr. J. W. Meek. The general result of these experiments is that in this non-vesicating oil, in doses from one-tenth to one-half a minim, administered in the form of pills, with magnesium carbonate and extract of henbane for excipients, we have a safe and mild or powerful purgative, according to the dose, unaccompanied by any unpleasant symptoms. No purgative action was obtained by administering the vesicating oil in a similar way, but a considerable amount of irritation in the alimentary canal, accompanied with nausea. The medical importance of Mr. Senier's investigation is obvious, and justifies the hope that we shall be able to extract a more practicable and effective purgative from croton oil, minus the violent and irritating powers which the physician is apt to associate with the drug in its entire form.

Alum in Whooping-cough.

Dr. D. H. **Cullimore** thus writes to the *Brit. Med. Jour.*, February 2, 1884: This is a very old and efficient remedy in many parts of the world, as well with the profession as the public. It was the first I ever used; and still, after a fair trial of most drugs, I like it best. It may be given immediately after the cessation of the catarrhal stage, for which small doses of aconite answer best; in fact, as soon as ever the distinctive cough has appeared. I generally give it as follows, though at the same time I should like to say that the belladonna is by no means a necessary addition:

℞. Aluminis sulph.,	gr. ij.
Tinct. belladonnæ,	♏iij to v.
Tinct cinchonæ,	♏xij.
Syrupi aurantii,	ʒ ss.
Aquam ad.,	ʒ ij.

M. This is given three or four times a day for a child of four years.

This mixture has a rough bitter-sweetish taste, and is much relished by children. It also answers well (without belladonna) in convalescence from bronchopneumonia attended with head-sweating and loss of appetite.

The *modus operandi* of alum is not so clear. Dr. Meigs gives a drachm in honey every ten minutes in croup till the child vomits, and in this disease prefers it to all other remedies; and it may possibly be by some action short of emesis that it acts in whooping-cough. I have, however, myself never given it in such doses (which could not be long continued), and am inclined to attribute its utility to its astringent, bracing, and tonic action on the blood and on the mucous membranes of the stomach and air-passages.

Whooping-cough proves fatal in most cases by subacute catarrhal bronchitis—a condition which small doses of alum are eminently calculated to prevent and restore.

It is possible, also, from its antiputrefactive properties, that it may exercise some deleterious influence on the *materies morbi*, or what I may perhaps call the germs of the disease. However this may be, alum is an excellent remedy. In the combination above given, I have almost invariably found it to lessen the cough, increase the appetite, strengthen the child, and in the end cure the disease.

Sometimes, however, a hacking, spasmodic cough, preventing sleep, which no drug seems to relieve, occurs. Here, one or two teaspoonfuls of brandy, or less, according to age, with a double or fourth part of hot water and very little sugar, answer remarkably well.

Cod Liver Oil Emulsion.

The *Pharmaceutical Record*, Feb. 1, 1884, says that Mr. F. P. Dalzell, of Cold Spring on the Hudson, gives the following formula and method of preparing emulsions of cod-liver oil and castor-oil, also cod-liver oil with hypophosphites. Some of the suggestions he makes are new, and the result most satisfactory, both to the dispenser and the patient.

EMULSION COD-LIVER OIL.

℞. Pulveris acaciæ	℥ i.
Olei morrhuæ	fl. ℥ iv.
Aquæ destillatæ	fl. ℥ ij.
Glycerini	℥ ss.
Glyceriti chloroformi	℥ j.
Essentiæ amygdalæ	ʒ j.

Fiat emulsio.

First rub up the gum with the oil until perfectly mixed; then add *all of the water at once*, and triturate the whole briskly as possible, until the mixture assumes a thick or pasty consistence and milky whiteness; after which add the other ingredients in the order that they are written.

The emulsion of hypophosphites can be made by dissolving the hypophosphites of lime, etc., in the two ounces of water, and then proceed as for the plain emulsion and the emulsion of castor-oil by replacing the cod-liver oil by the same amount of castor-oil. In this case, however, the water must be gradually added to the mixture of gum and oil.

These mixtures will bear dilution to any extent with water.

The glycerite of chloroform is 10 per cent. in strength, and is made very quickly at the time it is wanted by rubbing up the glycerine in a mortar, with the chloroform gradually added until it thickens, which indicates that it is mixed. By several trials I found that glycerine will take up only 12½ per cent. by weight, and allowing, for the time, to transfer it to the *emulsion*, about 2½ per cent. of chloroform is lost. Therefore, instead of using the term 10 per cent., we might say glycerite chloroform to saturation.

This essence of bitter almond is made with the oil and alcohol in the proportion of 1 part oil to 64 parts alcohol.

Knowing the powerful antiseptic properties of chloroform, and the proneness of oil mixtures to spoil, I was induced to use it in these emulsions, and, to my surprise, found that it not only kept perfectly, but disguised the taste as well. It also has the property of making the emulsions *more limpid.*

Withania Coagulans.

From the *Chemist and Druggist*, January 15, 1884, we note as follows:

"In our review of the fourth part of Surgeon-Major Dymock's 'Materia Medica of Western India,' we called attention to the curious properties of *Withania coagulans.* We suggested that pharmacists might produce a useful ferment from it as a substitute for essence of rennet, and we now give a brief abstract of a paper by Mr. A. Sheridan Lea, of Trinity College, Cambridge, in which he describes some experiments made to ascertain the best methods of preparing and the properties of the ferment. The active principle is found in the seeds only. The best solvent for the active principle is a 5 per cent. solution of sodic chloride. The solution loses its activity if boiled. The coagulation is not due to the formation of an acid by the ferment. The extract is highly colored. Attempts to remove the coloring matter by the use of alcohol (which precipitates it), of animal charcoal, kaolin, or ether, are equally successful in removing the coloring matter, but these agents remove also the active principle. Mr. Lea prepared a concentrated extract by infusing the finely-ground seeds with enough of the sodic-chloride solution to make a thin paste, separating the fluid by using a centrifugal machine, and filtering. One part of the extract thus obtained coagulated 200 parts of milk in an hour, and. thus prepared, the curd was quite white. Mr. Lea has added to the infusion, to preserve it, sufficient salt to raise the percentage to 19 per cent., and 4 per cent. of alcohol. It is not yet known if the infusion loses its activity. It is nearly certain that percolation carefully conducted would exhaust the seeds more effectually than the somewhat rough process adopted."

Hyoscyamine.

Dr. R. A. **Hayes**, of Dublin, Ireland, reports (*Dublin Journal of Medical Science*, December, 1883), a case of tremor of the left arm which he treated with hyoscyamine. The patient, when he came under Dr. Hayes' care, had been troubled with this tremor for six months. Eighteen months before it came on, he had suffered an injury of the shoulder of the same side. He was given one-sixteenth of a grain of hyoscyamine in pill. A single dose daily for two days produced no effect on the tremor. Next day two doses, morning and evening, relieved the tremor in some measure. The following morning a dose of one-eighth of a grain was given. Delirium soon supervened, and continued through the day, but the tremor ceased. The next morning one-sixteenth of a grain was followed by delirium, which did not completely pass off until the following day; but the tremor was decidedly controlled. The drug was now discontinued, it having completely paralyzed the patient's accommodation, and interfered seriously with his sleep. The tremor returned at once, and soon became very marked. Three days afterward, the hyoscyamine was resumed in doses of one thirty-second of a grain three times a day. In two days the tremor was lessened; in six days the ciliary muscle had again become paralyzed, and the medicine was stopped at the patient's request, though the tremor was much relieved. The smaller doses, while they did not affect the pupils, paralyzed the accommodation so completely that reading was impossible. It should be stated, however, that, when the administration of hyoscyamine was begun, the patient's eyes had not recovered from the effects of atropine, which had been used to facilitate an ophthalmoscopic examination.

Diet in Tuberculosis.

The *London Med. Record*, Jan'y 15, 1884, says: In the *Berliner Klin. Wochensch*, No. 47, Dr. A. **Bidder**, of Berlin, concludes three articles on the relation between the alkalies of the food and the etiology of tuberculosis, by advocating a diet as free from potash salts as possible, but rich in common salt, as being a soda salt. He argues that the latter renders the tissues unfavorable to the development of the bacilli of tubercle, and that in young patients with tuberculous processes going on in the bones, joints, glands, lungs, etc., half a gramme to one gramme of common salt should be given three or four times daily with the food, according to age. If dislike to this be shown, benzoate of soda may be substituted in doses of 0.2 to 0.5 gramme (3 to 7.7 grains). Indeed, the latter salt (known to be useful in the summer diarrhœa of children) is highly relished; it is aromatic in taste, and increases the appetite. Bidder thinks, moreover, that the well-known injurious influence of iodide of potassium upon tuberculosis or scrofulous processes is probably due not to the iodine but the potash, which is replaced by soda in the stomach. The diet should contain an excess of albumen, of fat, and of salt in the cases mentioned. The article concludes by a reference to rickets, in which a connection with tuberculosis is attempted to be proved. Rickets is here said to be due to an excess of potash salts in the food as *one* cause of it.

Salicyl-Resorcin-Ketone.

In *Zeitsch. der Allgem. öst. Apoth. Ver.* xxi., 502, Herr Repond says: Salicyl-resorcin-ketone is a compound which is formed when salicylic acid and resorcin are heated together to 195° to 200° C., and, as might have been expected, it shares to some extent the antiseptic and antipyretic properties of the bodies from which it is prepared. According to Herr Repond (*Zeitsch. der Allgem. öst. Apoth. Ver.* xxi., 502), in small quantities it is less powerful as an antiseptic than either salicylic acid or carbolic acid; its action being to limit the development of, rather than to kill, the septic germs. It is, however, non-poïsonous, repeated doses of two grains having been administered without inconvenience; it has been found useful for surgical dressings, and has been given to the extent of three or four grammes daily in typhoid fever without producing any unpleasant symptoms. Salicyl-resorcin-ketone is soluble in 1000 parts of water at 40° C., soluble with difficulty in hot water, and easily soluble in glycerine and alcohol. It melts at 133° to 134° C., gives when in solution a red-brown color with perchloride of iron, smells faintly aromatic, and has a not disagreeable taste. The corresponding compound with phenol, salicyl-phenol-ketone, is still less active as an antiseptic and more insoluble, but is said to be non-poisonous even in ten-grain doses.

The Influence of Large Quantities of Water upon Fever.

The *London Med. Record*, December 15, 1883, says: Dr. Paul Wilischanin, of St. Petersburg (*Centralbl. für die Med. Wiss.*, Sept., 22), says that dogs, made feverish by the injection of putrefying defibrinized blood, were artificially fed with large quantities of warm water, their weight and bodily temperature being carefully noted. The following were the results obtained by Dr. Wilischanin: 1. The temperature fell under the influence of the imbibition of large quantities of water. 2. The deprivation of water in the later stages of the fever had also the effect of lowering the temperature. 3. The animals became dull and sleepy under its effects. 4. The appetite increased under the administration of larger quantities of water. 5. The deprivation of water induced a diminution of bodily weight. In animals kept without water during the febrile state, granular degeneration (?) of the kidneys, liver, and heart was found to a greater extent than in those supplied with excess of water. Of these organs, the liver most frequently had undergone this change. In some cases, the lesion was so far advanced as to have extended to the nuclei of the cells, which were themselves atrophied. The heart was least affected, the change having only effected an obliteration of transverse striæ of the muscular fibres.

Aconite in Diphtheria.

Dr. M. Chisholm thus concludes a paper in the *Canada Med. and Surg. Jour.*, February, 1884:

1. Aconite in minute doses, frequently repeated, depresses the sympathetic, and like cold, contracts the vaso-motor fibres.

2. It has a selective action on inflamed parts, because of their increased susceptibility.

3. This sedative effect by lessening febrile reaction is conservative of strength, while its vaso-motor action is anti-inflammatory.

4. In consequence of this twofold action, aconite in at least the first stage of diphtheria calms the circulation, lowers the temperature, lessens tissue change, overcomes inflammation, checks the spread of membrane, and helps the relieved system to throw off the poison through the skin and kidneys.

Incompatibility of Sulphate of Quinine and Iodide of Potassium.

The *Med. News*, Feb. 23, 1884, says that in a communication to the Biological Society, M. Rabuteau calls attention to the ill effects of iodide of potassium and sulphate of quinine, when administered together or at short intervals. These effects are, on the part of the digestive organs, anorexia, nausea, epigastric pain, colic, and sometimes vomiting; on the part of the general system, *malaise*, slowing and feebleness of the pulse, pallor, and a sense of fatigue. These results are due to the decomposition of the iodide and the liberation of free iodine. This decomposition takes place, not alone in the stomach, but goes on in the intestine also.

The same result occurs from the use of an iodide sophisticated with an iodate of potassium. Iodine is set free, and to the action of this is to be referred the local and systemic effects above mentioned.

El Béthina.

A species of henbane is described in the *Journal de Pharmacie* ([5] viii., 415) under the Arabic name "El Béthina," which is believed to be the plant employed by the Touaregs to get rid of the members of the Flatters Mission. This kind of henbane is met with frequently a few days' journey to the south of El Golea in the Sahara region. It grows in isolated tufts, and attains a height of 50 to 60 centimeters, flowering in March and fruiting in June. The plant is used by the Sahara Arabs for criminal purposes; it is known to be poisonous to the camel and horse, but it is said to be eaten with impunity by the gazelle and sheep. The natives use the herb in the form of pulp or powder, which is mixed with dates or milk. The antidote used is pepper and butter, mixed with water that has been triturated with dates. This produces profuse perspiration, and the patient recovers without having experienced hallucinations.

The Electric Sulphur Cure.

The *Chemist and Druggist*, Jan'y 15, 1884, says that from the Salpetrière Hospital in Paris some very extraordinary accounts of cures effected by merely holding pieces of metal of different kinds have been announced. Mr. J. C. Pottage, of Edinburgh, has extended the idea, and has brought out an egg-shaped block of sulphur, which is designed for the cure of rheumatism, sciatica, and the like. The remedy can be applied without any trouble, and as sulphur certainly does assist in generating electricity under certain circumstances, it seems possible that it may have great popularity. The advantage in rheumatic cases of carrying sulphur in the pocket, is an old and perhaps a well-founded legend.

IV. GENERAL MEDICINE.

Betting and Disease.

The *Brit. Med. Jour.*, February 16, 1884, has the following: Lecturing at Wakefield on the 4th instant, on "The Gospel of Recreation," Dr. Crichton Browne took occasion to condemn, in strong terms, those amusements which depend on betting for their interest and attraction, and which are, he argued, equally injurious to morals and to health. "The element of chance or uncertainty," he said, "which, as Sir James Paget has pointed out, enters into so many recreative pursuits, is in itself harmless, but becomes pernicious whenever it is wedded to greed or craft, as it invariably is when money or money's worth is made to depend on it. But, unhappily, the chance element in recreation has a sort of natural tendency to unite itself with greed or craft. No one can look around him to-day, without perceiving on how large a scale this union has taken place. There may have been times when reckless gaming and high play were more prevalent than they are to-day amongst the affluent classes in this country; but it may be questioned whether there ever was a time when betting was as wide-spread as it now is amongst the masses of the people. The multiplication and enormous scale of sporting papers which are, for the most part, subservient to betting transactions, the admission of the latest news as to the odds into even high-class journals, the revelations of the Stock exchange, and the whispers of the clubs, all testify to the extensive diffusion of a vice that is peculiarly insidious and demoralizing; insidious, because it comes to us gilded with pleasure and in our moments of relaxation; demoralizing, because with parasitic growth it saps a man's better nature, and is very difficult to extripate when once it has taken a firm hold. In its effects on the health of those who practice it, betting resembles the most deleterious kinds of mental occupation. It involves a great deal of that emotional disturbance which is the dangerous element in brain-work, and which is really the measure of the degree in which that work shortens life and impairs vigor. The pleasurable excitement which draws men into it is analogous to the charm of tippling, and the frenzy that seizes those who are completely abandoned to it is a species of madness. To call a pursuit that is attended with such risks a recreation, is a sad misnomer. Medical men know well that gambling is responsible for numerous cases of dyspepsia, sleeplessness and nervousness, of heart-disease and diabetes, and of paralysis and apoplexy; and our lunatic asylums are never without melancholy examples of its influence in inducing insanity in some of its most painful and least hopeful forms. That it often leads to drunkenness and ends in suicide, is even popularly recognized. Our low public-houses are the haunts of sots who have wrecked their happiness at skittles, and a rashly importunate pistol-shot now and again gives piquancy to the life at Monte Carlo. Knowing what they do of its pathological affinities;

medical men cannot see without concern the growing tendency of city men to resort to gambling—mild gambling, perhaps, but still gambling—as a solace and relief after business is over. In railway-carriages, on their way to Brighton or elsewhere, in their homes or clubs in the evening, games of chance absorb their attention, and instead of being a solace and relief, become really a continuation and aggravation of the worries of the day. They do not, as all genuine recreations should, transfer pressure from one group of nerve-centres to another, but, under a thin disguise, maintain the same kind of cerebral activity that has been demanded during long hours in the counting-house or office. Instead of building up, they cause wear and tear; instead of refreshing, they fatigue; instead of soothing, they irritate. No wonder that City men, who thus recreate themselves, are irascible, morose, or despondent. Perhaps one of the best ways of realizing the effects of any vice or habit, is to make a study of the faces of those who are addicted to it. The most villainous and degraded faces in our population are to be found, as we should naturally expect, in prisons; and, respecting these, Mr. Francis Galton has said that he cannot turn over a bundle of photographic portraits of criminals, without being overcome by a sense of aversion and disgust, such is their ugliness.

"But the next best place to a prison, in which to see the English physiognomy at its coarsest and worst, is the platform of a London railway-station, on the day of a suburban race-meeting, when the special trains are just starting. There may be seen a pushing, chaffing crowd of betting men, or book-makers, and their dupes, with rascality stamped on their features in a way that cannot be matched in any other spontaneous assemblage of their countrymen. In almost every face may be discerned cruelty and greed, in many be recognized a hideous mixture of imbecility with low cunning, and in a few may be caught glimpses of infra-human or mere animal rapacity. There may be seen faces that are congenitally and radically bad, and with them others that bear the faded traces of better things almost blurred out, perhaps by the blotches of dissipation, and the hard lines carved by this soul-destroying vice. The rapidity with which gambling deteriorates the moral nature and destroys self-respect, is a strong reason for not tolerating the slightest dalliance with it. In that fascinating book published lately, 'The Life of Bulwer Lord Lytton,' in which a gifted son tells the story of a gifted father's earlier days, there is an instructive illustration of the quick corrosion that gambling causes in the heart and mind, and also of the reaction set up in a strong nature by the timely discovery of its pernicious effects. Bulwer Lytton, when in Paris as a youth, had gone to one of the gaming-houses that were in fashion at the time, and had played far more heavily than he could afford, and won largely. The day was dawning when he reached his rooms. His writing-table stood on a console in front of the mirror, and, pausing over it to lock up his winnings, he was startled and shocked by the reflection of his own face in the glass behind it. The expression of his countenance was not merely haggard; it was sinister. He had risked far more than he could afford to lose; his luck had been extraordinary; his gains were great. But the ignoble emotions of the night had left their lingering traces on his face, and as he caught sight of his own features still working and gleaming with a vicious excitement, he, for the first time, despised himself. It was then he formed a resolution that, be the circumstances of his future life what they might, no inducement, whether of need or greed, should tempt him to become a gambler. He kept his resolution. To few, however, is given strength of mind like that of Bulwer Lytton to form and keep so good a resolution and to turn peremptorily from a seductive temptation; and the records of our police-courts afford lamentable proof that betting is the high-road to crime and humiliation of city clerks who go wrong. Ninety per cent. are ruined through having engaged in betting; and there are few sadder stories than that often told at the Mansion House, or Guildhall, of the promising youth, sent up from his country home to push his fortunes in the great metropolis, who has been drawn into betting, and has drifted on through excitement, anxiety, and desperation, until he has embezzled his master's money. One of the indirect evils of betting is that it prevents large numbers of persons from participating in sports that are in themselves innocent, but have become objectionable from their association with it. The time seems to have arrived when, from no puritanical prejudices, but with a firm scientific conviction of the mischief that accrues from it, betting should be put down, being attacked first in its fashionable strongholds on the turf and the card-table, and ultimately, if need be, in its humbler resorts, where it hinges on carrier-pigeons or pitch-and-toss."

The Mechanism which Regulates the Arterial Blood-pressure in Health and Disease.

Before a recent meeting of the Royal Medical and Chirurgical Society (*Brit. Med. Jour.*, January 26, 1884), Dr. ROY said that he wished to aid the explanation of the rules of the general blood-pressure after ligature of large arteries, which was a subject not yet thoroughly understood. If, in one of the lower animals, a ligature or clamp were applied to a large artery, and the pressure of the other parts of the arterial system investigated by a mercurial manometer, such as Ludwig used, it was found that, after ligature, there was a slight rise in pressure, which did not last more than a minute or two, and then the general pressure reverted to what it had been before the occlusion of the artery. This was the case if both femoral arteries were ligatured, or both brachial; or even if the abdominal aorta were clamped; and, immediately after removal of the clamp, the general blood-pressure fell very little below the normal, and for a very short time only. That this showed a powerful mechanism in regulation of the pressure there could be no doubt, but, on the nature of this mechanism, he did not profess to touch. This strong regulative power was shown, too, by the slight temporary influence exerted on the blood-pressure by large injections into the vascular system. A quantity of neutral salt-solution, or of defibrinated blood, equal to the total amount of blood in the animal, might be injected with the same slight influence as followed the occlusion of a large artery; with the exception that, if the blood-pressure in the animal were below normal at the time of the injection, it was thereby raised to normal, and kept there. It was true, however, that, if the quantity injected exceeded a certain high limit, which varied in different animals, the blood-pressure rose considerably, and such cases were fatal. This showed a tendency of the system to keep to a certain particular pressure; and the mechanism regulating this was naturally of great interest. The three factors which were most important in such a mechanism were:

1. The force and frequency of action of the heart.
2. The elasticity of the arteries.
3. The resistance of the capillaries.

These each deserved separate consideration.

First, as to the heart. The instruments generally in use at present, such as the cardiographs of Marey and Burdon Sanderson, were not completely satisfactory, inasmuch as they did not measure the absolute force of the heart's action. If, however, there were made direct attachment of levers by hooks to the auricle and ventricle, their relative strengths might be measured absolutely or in comparison; if the hooks were attached to points between auricles and ventricles, the absolute strength of the heart might be best ascertained. With such an instrument, the effects of nerves on the force of the heart could easily be demonstrated; the vagus could be shown, if stimulated high up in the neck, to produce either a retarding power alone, or weakening power alone, or a combination of the two; the acceleration either a quickening power or a strengthening power, or a combination of the two. From this, it might be inferred that there were two sets of nerve-fibres in the vagus, and two in the accelerator, which were certainly functionally, and probably anatomically, distinct. This helped to explain a point in Gaskell's researches on arterial pressure, which had been much discussed. Gaskell found that, immediately on the application of a stimulus, the pressure fell for a short time, but then rose gradually to much above normal. That was because the depressing effects of stimulation of the vagus occurred rapidly and lasted only a short time; whilst those of the accelerator came on slowly and culminated later. It was worth while also to note that stimulation of the vagus nerve might sometimes strengthen the ventricle and weaken the auricle at the same time. The influence of sensory stimuli and of the surroundings, in modifying the power of the heart, was very marked, and introduced many complications. In fact, no attempt could be made in the present paper to settle whether the heart was the moderating force which kept the blood-pressure nearly uniform under varying conditions.

The second factor for consideration was the elasticity of the blood vessels; and details were given of experiments, by a somewhat novel automatic instrument, of the curves of elasticity of vertical and transverse strips of the aorta, showing that, though the transverse strip stretched more readily to light weights, yet at the normal pressure-point of the animal from which the aorta was taken, the stretching of the two was equal—*e. g.*, in a dog, at a pressure of 90 to 120 cubic centimètres of mercury.

The third factor was the peripheral resistance of the capillaries. The capacity of resistance was different in different organs, and in only a few could be accurately investigated, viz., (*a*) in the skin by the manometer, (*b*) in the muscle by the microscope, and (*c*) in the kidney by an instrument like that used by Mosso—viz., a vessel containing water, in which the organ was put, and where the alteration in its bulk was shown by the varying amount of water displaced. In examining the kidney, it was found that all nervous stimuli caused contraction of the capillaries. In exertion, the renal capillaries contracted, and the muscular dilated, the blood being thus turned to the place where it was wanted. By the injection of salt into the blood, the renal capillaries were dilated, along with those of many other parts; but if urea, or any of the chief constituents of the urine, were injected, the kidney alone was affected; and this happened even after all nervous connections between the kidney and the rest of the body were cut, so that its mechanism must be contained in the kidney itself. The same general rules applied also to the spleen. Time did not suffice to discuss further the many branches of the subject and their applications; but, before concluding, he asked attention for a moment to an instrument for measuring the absolute force of the blood-pressure in man—viz., a small tight elastic pad containing air, and in connection with a simple straight manometer of mercury; if this were applied to the artery, the mercury rose in the tube, according to the pressure of the application; the pulse-wave was visible in the mercury on light pressures, but ceased to be perceptible when the pressure was raised sufficiently to occlude the vessel. At this point, the height at which the mercury stood would show the absolute value of the pressure in the artery. It was an instrument much in use on the Continent, but not in England.

A Demonstration of Some of the Methods of Cultivating Micro-organisms.

Before the Medico-chirurgical Society of Edinburgh, (*Edinburgh Med. Jour.*, Feb'y, 1884), Dr. G. Sims Woodhead gave a demonstration of some of the methods of cultivation adopted for the growth of micro-organisms outside the body. He brought before the Society the various pieces of apparatus used, and a number of specimens of "pure cultivations" of micro-organisms, drawing particular attention to those growing on Koch's peptonized meat-gelatine. The first nutritive medium mentioned was the potato, which had been sterilized by boiling. On specimens of this there were various bacilli and micrococci growing, some of special interest, such as B. anthracis, the micrococcus of osteo-myelitis, pink yeast, etc. The method of preparing the peptonized meat-gelatine was described as follows:—Take of minced beef, 2 lbs.; distilled water, 2 litres. Pour the water over the beef, and allow to stand in a cool place for 24 hours. Remove the fat from the surface, and then squeeze out the fluid in a press, pouring in distilled water to make up the two litres. To this fluid add 100 grams best gelatine, 10 grams of pure dried peptone, and 5 grams of common salt; dissolve, strain the mixture, and neutralize with a saturated solution of carbonate of soda. The whole is placed in a four-litre flask, the mouth of which is stopped with a plug of cotton-wadding, and then kept at a temperature of 100° C. (in steam) for 30 minutes. The next day it is again steamed for 30 minutes, and again neutralized, if necessary, or even rendered slightly alkaline. Filter through a heated funnel (copper sheath, with glass inside, the water between the two being kept at a temperature of 80° C. or 90° C.) containing filter-paper, into small quarter or half litre flasks. Have these about half full. Steam these flasks containing the gelatine for 20 minutes; repeat this the next day, and the two succeeding days steam for 15 minutes each. This gelatine is most frequently used in test tubes. Both flasks and test-tubes must be plugged with cotton-wadding and then exposed to a temperature of 170° C. for one hour before the gelatine is put into them. Each test-tube should contain about 10 cc. of the gelatine. The pipette used must be sterilized by being passed through a flame, or it may be well washed out first with distilled water, then with 1–1000 solution of corrosive sublimate, and again with absolute alcohol. Great care must be taken that the plugs do not come in contact with anything outside the tube or flask. To inoculate, heat a platinum wire mounted in glass, and allow it to cool; take some of the material to be inoculated on the point of the wire, hold the mouth of the test-tude downwards, withdraw the cotton-wadding, push the wire up into the gelatine, taking care to withdraw in the same line, re-insert the plug, and label the tube.

Various other methods of using the gelatine were then described, for the analysis of air, water, etc. *Koch's Inspissated Blood Serum.*—The blood is drawn into tall jars, previously washed with 1–1000 corrosive sublimate and then with alcohol. (The stoppers are greased with vaseline.) It is allowed to stand in the cold for 24 hours, and the serum is removed with a sterilized pipette and run into sterilized test-tubes stoppered with cotton-wadding. These test-tubes are then placed in an upright position in a hot-air chamber, which is maintained at a temperature of from 57° C. to 60° C. for six hours the first two days, and for four hours the following four days. It is now sterilized, but should be quite fluid. To inspissate—Place the test-tubes in a reclining position in a hot-air chamber kept at a temperature of 68° C. to 70° C. (in the case of calves' serum it must be as high at 80° C.) Leave until the serum becomes just solidified. This usually takes place in about twenty minutes, but the serum of the calf requires a somewhat longer time. The serum is then ready for use. *Bread Paste.*—Take the crumb of a loaf, break it down or cut into slices, and dry at a temperature of a little more than 40° C.; grate down carefully, and place about 10 grams in a sterilized flask; add 25 cc. distilled water. Heat (in steam) to 100° C. for 30 minutes on two successive days. Allow the paste to stand for at least 48 hours, in order that it may be seen whether any growth makes its appearance before inoculation. Milk and other fluids may be sterilized in the same manner. Through the kindness of Dr. Hare, who added a considerable number of cultivations, a tolerably complete set of typical growths of micro-organisms and fungi was placed before the Society. Several of these (tubercle bacillus, anthrax B., etc.), were brought by Drs. Hare and Woodhead from the laboratory of the Gesundheitsamt, Berlin, where, through the generosity of Director Dr. Struck, on behalf of the German Government, and the kindness of the officials on the staff, these two gentlemen were enabled to avail themselves of its splendidly organized system. Tubes prepared by Dr. Becker, containing micrococci of osteo-myelitis and cultivations from these, were also exhibited.

Masturbation and its Sequel.

DR. FRANCIS A. EVANS thus writes in the *Nashville Jour. Med. aad Surg.*, February, 1884:

Masturbation is an act, the result of which is spermatorrhœa. It is practiced, to some extent, by nearly all, at the period of adolescence. With a few, however, when once commenced, it grows with their growth, and at last obtains such mastery over the mind that it is broken up with great difficulty. The origin of self-abuse dates back to antiquity, as we find it recorded in the Bible of Onan, and other instances are given by our earliest profane writers. Nor is the indulgence confined to our class, as investigation proves the fact that both sexes practice it. I am, however, coaxed into the belief, that of those who indulge in this disgusting habit, the male number greatly predominates.

With the majority of those that practice masturbation, the act is only performed occasionally, and as they attain age, they become disgusted and abandon the habit; whilst with others, as before stated, the practice is continued until it leads to serious results.

SEQUEL.

Spermatorrhœa is the inevitable result of long-continued onanism. Spermatorrhœa, (nymphomania, if of females,) may, however, be produced from causes aside from that of masturbation; as from excessive coitus, gonorrhœa, constant lascivious thoughts, diseases of the rectum and bladder, or any cause that will excite and continue an irritation of the genital organs. It invariably results from debility of the sexual organism, and is associated with a general impairment of nutrition and of function. This impairment may be continuous, till sexual neurasthenia results.

Female masturbators generally perform the act by simply titillating the clitoris with the fingers, and not by introducing hard substances into the vagina, as some physicians claim. Those who practice masturbation are nearly always shy, avoid company, have a downcast appearance, love solitude, and have difficulty of looking persons fair in the face. Frequently, too, they are not well nourished, nervous, pale, and manifest a great lack of courage and manly resolution.

Spermatorrhœa makes its appearance in the course of two or three years after commencement of masturbation.

It manifests itself in the form of nocturnal emissions, which at first are voluntary, and occur under the influence of lascivious dreams, and are attended by the usual feelings, but at last without sensation or consciousness of the individual. Frequently the discharge will occur after micturition, or from straining at stool, or from lifting. After the habit is fully established, the emissions will occur as often as twice or three times per week. Associated with this, the patient presents an appetite very variable, sometimes voracious, sallow skin, foul taste, sleeplessness, and constipated bowels.

TREATMENT.

The first and essential factor is prohibition of the act, as well as avoidance of obscene pictures and literature. (And I might add avoidance of charlatans and patent medicine.) And cleanliness of person, bathing, and cheerful company, deserve consideration. The pill of quinia et ferri et strychniæ proves valuable, as does also the distilled extract of hamamelis, and the tincture of phosphorus. If there be much debility the following formula has given me the most satisfactory results:

℞. Fl. ext. Damiana . . . . ℥. j.
Tr. Staphysagria . . . . ʒ j.
Aqua ad . . . . ℥. iv. M.
Sig.—Teaspoonful four times daily.

I have found, in the treatment of this affection, that but little medicine need be used. I lately cured a young lady by performing an imaginary castration.

Another case (strange to say a married woman) I cured by slightly wounding the clitoris, and keeping it sore for some weeks.

In conclusion, I will say if other sequelæ supervene, they should be promptly met, and treated on general principles.

Periodical Change of Color of the Hair.

The Boston *Med. and Surg. Jour.*, March 6, 1884, says: A curious and apparently unique case of periodical change in the color of the hair is described by Dr. C. Reinhard in the last number of *Virchow's Archiv.* The subject exhibiting this interesting phenomenon was a female epileptic idiot, thirteen years of age, who was under careful observation at the Dalldorf-Berlin Asylum for two years. Very shortly after the reception of this girl at the asylum it was noticed that her hair, which was soft and thick, changed its color from time to time from a light yellow to a deep red, and back again. The process, beginning at the end of the hairs, was accomplished pretty rapidly—in two or three days, and each change remained seven or eight days. It was noticed that the changes of color were, in a general way, synchronous with the periodical changes in the psychical condition attendant upon the epileptic attacks, the dark color being assumed during the time of excitement and the lighter color during the succeeding period of stupor. These changes occurred in the same hairs, not being dependent upon the growth of new hair. There was no disease of the hair, nor of the scalp other than a slight dryness during the periods of stupor.

The writer, as the result of a careful consideration of this case from different points of view, supported by a thorough microscopical examination of the hair at various periods, and of the skin after death, advances at the most probable explanation of the phenomena described, the occurrence of considerable and rapid changes in the amount of air contained in the hair shaft. The light color resulting from the presence of a larger quantity of air veiling the pigment, the darker color returning with the departure of the air. To these results the greater dryness and roughness of the hair, although slight, at certain times probably contributed in some degree by altering the refraction of the light, the drier the hair the lighter the color.

The presence of an abnormal quantity of air in the hair is the explanation offered for those cases in which a permanent and sudden change from dark to gray or white hair is reported, and notwithstanding Hebra's and Kaposi's dissent, the occurrence of such is well established by Charcot, Bichat, Lélois, Rasmond, and other trustworthy authorities, the last of these recording a case in which, apparently in consequence of severe neuralgia of the head, a patient's hair turned, in five hours, from black to white, passing through an intermediate stage of red. Landois describes one of these cases in *Virchow's Archiv*, April 1866, and Wilson credits these sudden changes as authenticated. In these cases of permanent change some other influence than the mere increase of air must come into play, and it is probable that trophic nerve changes contribute to the result in the cases of sudden and permanent change, as also in the singular case of our author, the changes in the first class of cases being carried to an irreparable point.

The air may penetrate the hair shaft from the atmosphere, or may have its origin from the gases present in the blood, and probably may be drawn from both sources. However acceptable these hypotheses may prove to account for the facts recorded, and in regard to which it would seem that there can be no question, the facts themselves may be fairly used to emphasize the following conclusions: (1) Trophic disturbances in the domain of the nerves supplying the scalp may accompany other cerebral phenomena; (2) these trophic disturbances may extend even to the hair; (3) such disturbances may, like many other nervous processes, assume a periodical character; (4) the attendant changes in the hair manifest themselves by a loss of color; (5) the same phenomenon also probably depends upon an abnormal storing up of the air, and, as this case shows, may be transitory.

The Special Treatment of Malignant Disease.

The *Louisville Med. News*, Feb'y 23, 1884, says: The first annual report of the New York Skin and Cancer Hospital is before us. This truly philanthropic institution has been in operation since 1882, and though never before tried in this country, the experiment, as shown by the report, has proved a real success. It would seem, from the statistics of cancer in New York City, as quoted in the report, that malignant disease is on the increase. In 1869 there were from this cause three hundred and four deaths; in 1879, five hundred and seventy-two; in 1880, six hundred and fifty-nine (cancer causing during that year more deaths than scarlet fever); in 1881, seven hundred and seven, and in 1882, seven hundred and thirty-one. "During these fourteen years, six thousand eight hundred and forty-three persons died of cancer in New York City."

The above is startling, and calls loudly for the establishment of institutions in which sufferers from this terrible disease may receive all the good obtainable through scientific treatment and special nursing.

The report says that cancer patients are not welcome at general hospitals; and we doubt not that when admitted to such institutions they often miss the special treatment and management which should reduce to the minimum their sufferings during the course of a long, painful, and too often hopeless illness.

Another advantage of cancer hospitals and infirmaries would be their influence in keeping people thus afflicted from falling into the hands of quacks. It is seldom that the family physician, or consulting surgeon, is possessed of an influence which is strong enough, when the "prognosis of despair" is made, to save his patient from falling under the talons of these harpies, who, after submitting the sufferer to cruel treatment, and fobbing all the money in sight, send him home to die, with the statement that he could have been cured if he had only called in time. In view of this lamentable state of things, it is not too much to hope that a well-ordered institution, with a staff of able surgeons, trained nurses, and a corps of well-instructed and philanthropic visitors, might do much to check this eagerness to catch at straws, which, in these desperate sufferers, not only results n an aggravation of misery, but stands as an opprobium to legitimate medicine.

Another advantage which the cancer hospital presents is, that it would relieve many physicians of a most trying responsibility. For it is probable that not a few doctors, who now undertake the treatment of malignant disease from a sense of duty, would gladly turn their cases over to the care of some trustworthy institution of this kind.

Lastly, it is not unreasonable to hope thaf, in the systematic study and management of cancer in hospitals set apart for the purpose, many questions now obscure in regard to the nature and etiology of malignant neoplasms may be made clear; and that means of treatment may be devised which, if they do not result in permanent cure, may render less fatal these inveterate destroyers of human life.

The Heart in Pneumonia.

The *London Med. Record*, February 15, 1884, says that Dr. Giovanni states that as a general rule (*Gazz. Med. Ital. Prov. Venete*, and *Annali Univ. di Med.*, Nov., 1883), the heart in pneumonia is increased in volume, but this increase varies in different cases in extent, time, and mode of origin. The nervous system is an important factor, although not the only one, in the variations of the cardiac area. By hastening or retarding the movements of the heart, it influences the general circulation; and by its action in dilating or contracting the vessels, it affects the local circulation, and also influences the temperature of the body by now checking and now encouraging the radiation of heat. The author combats the opinion that the fever follows faithfully in its oscillations the morbid process. Elevation of temperature does not invariably correspond to a new extension of the inflammation. The variations of the cardiac area often coincide with modifications of the nervous system and with fall of temperature; nervous depression, often with general prostration and profuse sweating, favors dilatation of the heart. In the thirty cases of pneumonia examined by the author, increase of the cardiac area was found in all. The heart may be dilated, and persist so throughout, or may offer oscillations in the course of the attack. In the majority of cases, the cardiac area is increased by dilatation of the right heart, but there is sometimes a general dilatation. Although the embarrassment to the circulation in the lung may be very great, the right heart does not always dilate in proportion to the obstruction to the pulmonary circulation, but may remain almost in the normal state; and from this it is seen that it is not the increase of the intra-cardial pressure only which causes the dilatation. In each case, the share which the embarrassment of the circulation, the general and the local nervous function, and the original cardiac organization, take in its production, must be determined by exact study of the dilatation. The liver is also generally enlarged, and its increase may precede or follow that of the heart. The author insists on the great practical utility of these researches. If the cardiac dullness increase, there being no great embarrassment to the circulation in the lung, the resistance of the heart is not of the best, either from original want of activity in the left ventricle, or from depression of the general innervation, or from gastro-hepatic complication. From the knowledge of the cardiac dilatation, one can foretell that the patient is not going to do well, even if the other symptoms do not show it, and can draw valuable conclusions as to treatment according to the factors producing the dilatation.

Influence of Science on Religion.

In the *Popular Science* Monthly for January 1884, HERBERT SPENCER says: While the beliefs to which analytic science leads are such as do not destroy the object-matter of religion, but simply transfigure it, science under its concrete forms enlarges the sphere for religious sentiment. From the very beginning the progress of knowledge has been accompanied by an increasing capacity for wonder. Among savages, the lowest are the least surprised when shown remarkable product of civilized art, astonishing the traveler by their indifference. And so little of the marvellous do they perceive in the grandest phenomena of Nature that any inquiries concerning them they regard as childish trifling. This contrast in mental attitude between the lowest human beings and the higher human beings around us is paralleled by the contrasts among the grades of these higher human beings themselves. It is not the rustic, nor the artisan, nor the trader, who sees something more than a mere matter of course in the hatching of a chick; but it is the biologist, who, pushing to the uttermost his analysis of vital phenomena, reaches his greatest perplexity when a speck of protoplasm under the microscope shows him life in its simplest form, and makes him feel that however he formulates its processes the actual play of forces remains unimaginable. Neither in the ordinary tourist, nor in the deer-stalker climbing the mountains above him, does a Highland glen rouse ideas beyond those of sport of other' picturesque; but it may, and often does, in the geologist. He, observing that the glacier-rounded rock he sits on has lost by weathering, but half an inch of its surface since a time far more remote than the beginnings of human civilization, and then trying to conceive the slow denudation which has cut out the whole valley, has thoughts of time and of power to which they are strangers—thoughts which already utterly inadequate to their objects, he feels to be still more futile on noting the contorted beds of gneiss around, which tell him of a time, immeasurably more remote, when far beneath the earth's surface they were in a half-melted state, and again tell him of a time, immensely exceeding this in remoteness, when their components were sand and mud on the shore of an ancient sea. Nor is it the primitive peoples who supposed that the heavens rested on the mountain-tops, any more than in the modern inheritors of their cosmogony who repeat that "the heavens declare the glory of God," that we find the largest conceptions of the universe or the greatest amount of wonder excited by contemplation of it. Rather, it is in the astronomer, who sees in the sun a mass so vast that even into one of his spots our earth might be plunged without touching its edges; and who by every finer telescope is shown an increased multitude of such suns, many of them far larger.

Chloroform Astigmatism.

M. Bubois has made an interesting communication to the Société de Biologie on the action of chloroform on the nutritive media of the eyeball and on the mammary gland. On examining the fundus of dogs narcotized with chloroform, he found its characters unusually difficult, and at times impossible, to distinguish. He observed also shadows upon it which seemed to be produced by a particular alteration of the cornea. Irregular astigmatism was present, and was pronounced. By washing the ocular surface, he proved that these appearances did not depend on mucous flakes in front of the cornea. Similar and very marked astigmatism was observed in a man while under chloroform. This abnormality was found to disappear when sensibility returned. Diminution of refraction was particularly noted in one of the dogs. The tension of the globe was in these various cases also lowered. A comparative observation on the mammæ of a bitch appears to throw some light on the ocular phenomena. The breasts, which were turgid with milk at the commencement of anæsthesia, became flaccid and comparatively empty when the animal was fairly comatose. It may be suggested in accordance with these experiments, that the peculiarities of refraction above detailed, like the alteration in the breast, are due to relief of tension in the fluid constituents of the organ affected, a condition which may easily occur during chloroform administration, if the heart's action continue vigorous, seeing that every vascular channel then undergoes relaxation of its muscular fibre and consequent dilation, and the escape of its contents is proportionally facilitated.

Spontaneous Cow-Pox.

A case of alleged spontaneous cow-pox is published in the *Revue Sanitaire* for January 10th. The case was reported to Dr. Plumeau of Bordeaux, on information derived from M. Barbe, veterinary surgeon, and M. Pichausel, a physician at Podensac; and the cow in question was stated to be at Cérous. On December 26th last, the animal, a milch cow, was examined by Prof. Layet, and by M. Baillet, veterinary surgeon at Bordeaux. On the udder and teats a considerable number of pustules, mostly dried and covered with a black scab, were discovered; but six or seven tubes of fluid were procured and preserved with all the necessary precautions. On the same day, after their return to Bordeaux, the experts in question inoculated a heifer with the fluid, and on the 31st three typical vesicles had been produced. A second heifer was then inoculated with fluid taken from these vesicles, and although the result was a little delayed, the operation was successful at each of thirteen insertions. On both occasions the results of the inoculation are stated to have been characteristic of well-marked cow-pox. Although nothing is said as to the possibility that the milch cow first affected, might have been handled by some one through whom the infection of small-pox could have been conveyed, yet we assume this point and all other possible sources of small-pox infection were considered and excluded, for it is asserted that the investigations made by the Municipal Vaccination Service in Bordeaux, have proved that vaccinia is not small pox.

Typhoid Fever from Cattle Manure.

Mr. Lawrence, in the *Lancet*, December 1883, p. 984, brings forward evidence to support a theory that typhoid fever is conveyed for the first time to man from bovine cattle. Notes are given of several instances. Amongst these it will be found that five cases occurred in two houses in the same village, but some distance apart; no other house was attacked; but these two houses had one circumstance in common, and this did not apply to the rest of the village—namely, the presence of a cattle-inclosure close to the dwellings, occupying in each case the space between the house and the open water-course. Another remarkable instance is given, of three men who went on a wagon journey together. A few days after their return to their homes, they were all laid up with typhoid, although their homes were a considerable distance apart, and no other members of the family were affected. The men, during their journey, drank water from a stagnant cattle-pool. The cases given tend to show that the presence of cattle manure in sufficient quantity to infect air or water was *prima facie* the cause of the outbreak. In no case could an outbreak be ascribed to infection from sheep or horse manure.

V. CLINICAL MEDICINE.

Notes on Diphtheria.

Dr. F. W. Jordan thus writes in the *Practitioner*, February, 1884: During the last twelve months I have attended a large number of cases of diphtheria, the majority of which occured in the latter part of 1882 and the beginning of 1883. I have chosen these for remark because they all present some interesting feature. The first case is fairly typical of many others that followed. All the cases were treated like this one, with additions suitable to the various complications that arose.

Case I.—On September 8, 1882, a girl, aged twelve, consulted me for sore throat, general malaise, and headache. She looked dull and heavy, and quite out of her usual lively spirits. The tonsils were slightly swollen, and the mucous membrane of the pharynx was of a dull red color. Next day I found her in bed with both tonsils bearing a few yellow spots or patches. On the 10th there was no material change. On the 11th, I found the left tonsil enlarged and covered with a large, yellowish-white membranous exudation. The temperature was over 103° and the prostration was slight. The other tonsil became affected in the same way, and both were cleared of deposit by the 21st. She took food well all through the illness, and did not exhibit much weakness when she got about. The tonsils remained large for some time afterwards. The treatment, after the membrane had formed, consisted of gargling with a weak solution of permanganate of potash, and the administration of a small portion of strong beef tea, and small doses of quinine, chlorate of potassium and nitro-hydrochloric acid every hour. A sister of this girl died about three or four years before of diphtheria, at Southport.

Case II.—Another girl, about twelve, residing a mile away from the last case, had an illness exactly resembling this. Some time after I had ceased attending she came to see me, complaining of thickness in her speech and inability to pronounce her words properly. Her voice sounded muffled, and as if she had mucus in her mouth. On examination, the soft palate was found to hang down motionless, and not to respond to irritation. The girl is one of many children, and the only other case of sore throat in this house occurred some weeks afterwards in an elder brother, who had had one of his tonsils removed. His throat was affected only with small spots or patches like what is seen in ordinary ulcerated sore throat, with the addition of considerable disturbance of the surrounding mucous membrane, and some debility.

Case III.—A girl, aged six, had an illness resembling Case I. The false membrane reappeared in a slight degree on one tonsil. This child was in the habit of sleeping with her mother, who was in an advanced stage of phthisis. She tended the child and did not take the disease.

Case IV.—A girl, aged eleven, commenced to be ill with general malaise, and in two days her breathing become difficult and noisy, voice whispering, and she had hard, brassy cough, pain in the larynx, anorexia, and considerable prostration. Was thought by the friends to be suffering from croup. In two days the laryngeal symptoms improved. Then the left tonsil became affected with yellowish-white patches, which united and formed a thick membrane. There was fever; and the pain which she had in swallowing became very severe after the membrane cleared away; it appeared to be in her ears, as whenever she took food the nurse had to press as hard as possible a finger into each auditory meatus. Just before this symptom showed itself she had brought up some blood and mucus. A carbolic acid spray was used to the fauces, and she gradually improved. She then had pneumonia of the base of one of her lungs, and expectorated rusty adhesive sputa. She became very anæmic, and convalescence was prolonged. Her voice continued to be of a whispering character for three or four weeks after all throat symptoms had disappeared. A month after the onset of the disease the patient complained of an indistinctness in vision; that is to say, when occupied in reading, a word would disappear as if a cloud had intervened. In a few seconds the cloud would vanish, and then in a short time return. Two months from the commencement of her illness she was again affected with sore throat. Both tonsils and uvula were of a dusky-red hue, and not enlarged, and the right tonsil had in the centre a yellow, ill-defined patch. She soon recovered, though with much debility.

Case V.—A girl, aged seventeen, was laid up in bed, on October 4th, with rheumatic pains in both ankles and knees, and all along both legs. There was swelling of these joints, fever, and much prostration. She was pallid, but I did not attach much importance to this as she is always more or less anæmic. There was ulceration of the labia minora and of the vaginal wall. The left labium was swollen, inflamed, and very tender, so that examination was very difficult. There was great pain on micturition. October 9th, all the symptoms much better. Was quite well on October 31st.

Case VI.—A girl, aged five, had this sore throat in a mild form, one tonsil only being affected; there were no constitutional symptoms. She played about all the time she was ill, and she was not confined to her bedroom. After the membrane was shed the other children were allowed her company. She was nursed by her mother, who attended to her duties as usual. Three weeks after this child was discharged, a sister, aged six, commenced in the same way on November 1st. She was naturally delicate, and of very fair complexion. Both tonsils were covered with a large, dirty-yellow membrane. There was high fever and marked prostration, and she took her food badly. By November 5th both membranes had disappeared, leaving the tonsils swollen and much reddened. There was no pain at the angles of the jaw on pressure. The depression increased, and I ordered port, but she took very little, as it appeared to cause sickness. She now complained of pain over the epigastrium of spasmodic character, her pallor increased, and she died of asthenia after thirteen days' illness. There was no albumen in the urine. After this death a younger child, a strong boy, was affected with the same complaint; he recovered, but was for a time pallid and weak. An older child, a girl, became affected during the illnesss of the one who died; she recovered. After this a servant was taken ill with the same kind of sore throat.

Case VII.—In another family, a boy, aged five, had enlarged tonsils with so-called ulcers upon them. He was ill from October 23d to November 2d, and in December all the children had measles and some of them sore throat. At the same time their mother had sore throat with false membranes covering the tonsils, thicker in some parts than in others. They cleared off in two days.

Case VIII.—A girl, aged eight, had false membranes and high fever. No other child was attacked. This was in November. In March following she had sore throat again with small yellowish patches on both tonsils resembling aphthæ. The left tonsil had an appearance like follicular tonsillitis. The post-sterno-mastoid glands were enlarged, and there was some stiffness of neck.

Case IX.—A child had membranous disease of tonsils, which lasted five days, and after her recovery a girl, aged ten, who was in the room with her during her illness, was taken ill with slight sore throat. There was no deposit of any kind. The fever ran high, and there was much depression.

Case X.—A girl, aged four, had measles, and this was followed by membranous sore throat. No other child was affected. The other children had had measles before.

Case XI.—A girl was taken ill with pain at the epigastrium, and sickness, and high fever, which continued three days. There were no marked throat symptoms, though there was enlargement of glands about the throat. After her recovery an elder sister, who had nursed her, was affected with a sore throat for a day or two, the tonsils having yellow spots upon them. Then a younger child, a boy, was taken ill with fever and enlarged cervical glands about the angles of the lower jaw. There was nothing to be seen in the throat. His urine was scanty, and of a green color, and contained albumen.

Case XII.—I attended some children for measles, and while the rash was still out on them the mother was seized with membranous sore throat and swelling of the tonsils (she had had diphtheria some years ago in New Zealand). She had a strawberry tongue, high fever and great prostration. A red rash then appeared on the chest and nowhere else, it was attended with itching; there was tingling of fingers and toes. She gradually improved, and the skin desquamated. Her daughter, aged twelve, while the measles rash was still out, was seized a day or two after her mother with sore throat. There was no membrane, but the tonsils were angry-looking, the tongue was strawberry and there was much prostration. While her throat was still very sore the skin of her hands desquamated in large pieces, leaving the new skin very red and tender. The desquamation extended all over the body. She recovered slowly, and then had articular rheumatism. Two boys in the same family had measles the same time as their sister. In one it was followed by conjunctivitis, and in the other by herpes of the lip of an indolent character. It was accompanied with pallor and much prostration.

Case XIII.—A child, aged three, had slight sore throat, attended with patches on the tonsils, and was only slightly ill. There were swollen glands (one of which suppurated), scanty urine, and much albumen.

Case XIV.—Three children whom I attended in separate families had in the fauces a thin, semi-transparent pellucid membrane; in one case it was brownish in color and affected the tonsils only; in another it lay on the back of the pharynx, and was bluish in color, and was accompanied by a thick coriaceous deposit on the tonsils; in the other it resembled the first one, and was in the same situation, and was accompanied by yellow spots.

Case XV.—A little girl had enlarged tonsils without any deposit, so far as I could see, but examination was difficult owing to her resistance. There was much salivation.

Case XVI.—A gentleman and his housemaid were taken ill on the same day, February 27th, with so-called ulcerated throat, attended with high fever and general aching. He recovered slowly with a moderate amount of weakness. The girl was in bed with the window open on February 28th. On March 1st, the spots had all cleared off the throat. On March 2d, she was down stairs cowering over a fire with a pulse of 120. And on March 3d, she developed signs of pleuro-pneumonia of the left base. The inflammation extended to the whole of this lung, and to the base of the right. Her condition soon assumed a typhoid state, and she died on March 14th. During this girl's illness the cook became affected with a sore throat, exactly resembling those of her master and fellow-servant.

Case XVII.—I attended in July a lady with membranous sore throat, contracted in nursing her children. For several days she fancied she heard a chorus of children's voices singing in the distance. This was not constant—it occurred only at those times when she felt very weak. There were no other disturbances of the nervous system. She, knowing her imagination was playing tricks, did not tell me of this until she was better. Her illness was followed by a large abscess on the left side of, and under the body of the lower jaw, and this was accompanied latterly by a discharge of foul pus from the right antrum, which continues in a minor degree to the present time (December). She tells me that her illness was followed by occasional attacks of faintness—and now they occur only at long intervals, and only on unusual exertion.

Case XVIII.—A lady had swollen tonsils with yellow patches on them. When nearly well, the servant, who had been kept quite apart, was found one morning with tonsils both covered with a thick false membrane. She was sent to Monsall Fever Hospital, and the baby who had been accustomed to sleep with her, and did so until the girl went to the hospital, remained quite well.

Case XIX.—A boy, aged twelve, had headache for forty-eight hours, then enlarged tonsils with small yellow patches on them. A brother slept with him until the patches were seen; and he began to be ill in the same way on the third day after separation. The housemaid began ten days afterwards, and next day her tonsils were found swollen and racemose, and there was much constitutional disturbance. The left tonsil looked peculiar. It had upon it numerous projections having a red base and transparent apices, each containing a yellowish substance. They resembled closed follicles overloaded with pus. The cook returned from a holiday after the housemaid was convalescent, *i. e.*, four days after she had been taken ill, and in four days she became affected with a reddened throat and general malaise. There was no deposit. The mistress who nursed these cases did not take the disease.

Case XX.—A boy, aged twelve, had membranous sore throat, and when recovering developed sub-acute rheumatism, in right hip joint and to a slight extent in the wrists and elbows. There was fever, but no swelling of these joints. He recovered in a few days.

These cases of sore throat were generally preceded by twenty-four to forty-eight hours of general malaise, headache, and slight soreness of throat. On examination the fauces were found reddened only. Then tonsils became swollen, and upon one or both was found a deposit. A lymphatic gland at each angle of jaw would be found enlarged and painful.

The deposit consisted first of spots or patches, which in course of a few hours would coalesce and form a membrane, completely hiding the face of the tonsil. The exudation then became condensed and formed definite and clearly-marked edges, showing the membrane to be thick and coriaceous. In appearance it resembled a piece of wetted new chamois leather, though a little whiter in color. It generally disappeared in course of a few days, and in one piece. Sometimes it formed again, though not to the same extent. The new deposit was of smaller size and not so thick. The tonsil affected was left swollen and reddened, and sometimes glazed or ragged. But it would assume its normal condition only after the lapse of some time, occasionally requiring special treatment to effect its cure.

The constitutional symptoms were fever, aching of limbs, slight depression, want of appetite, and much pain on deglutition, especially of solids.

The cases may be divided into the following classes:

1. *Mild*, where nothing more than tumefaction and general redness of the fauces were to be seen, the constitutional disorder being slight.
2. *Less mild*, where, in addition to the above, there was exudation in the form of spots or patches, the constitutional disorder being marked.
3. *Severe*, where there was a distinct membrane formed.

Such cases as Class 1, I should not have diagnosed as diphtheria, if they had not occurred contemporaneously with distinct cases of this disease. One case (XIX) occurred in a house where all the inmates had been affected with sore throat. The patient came home from the country quite well, where she had had no intercourse with any sick person, and yet in four days she was seized with sore throat.

In Class 2 the spots or patches were irregular in shape and granular. There was always enlargement of lymphatic glands. In one case an abscess formed in the neck. The constitutional depression was often as severe as in the next class.

In Class 3 the prostration and glandular enlargement were not so great as the local signs would lead one to expect. The lymphatic swelling was not sufficient to be apparent to the eye unless the patient happened to be thin. One case (XVII) was followed by an indolent swelling opposite the left side of the body of the lower jaw. It suppurated slowly, and discharged a large quantity of offensive pus both externally and into the mouth. It healed slowly and left considerable induration behind. It was followed by a purulent offensive discharge from the right antrum. The tonsillar deposit was not generally followed by loss of tissue. One case of Class 3 looked suspiciously like this, but I believe the appearance of it was caused by elevation of the tissue around the deposit. I can recall one case of Class 2 where the tonsil showed a distinct excavation on the site of one of the larger spots. In some instances the deposit had a branched appearance, in consequence apparently of lying in the spaces between the projecting follicles of the gland.

In only two cases can the prostration be said to have been extreme, viz., the one that died, and a boy who had spots only on the tonsils, and who fainted two or three times. The subject of albumen in the urine was not attended to as it should have been owing to my being very busy. But in some of the cases where it was present it was remarkable how slight the symptoms were.

The nervous phenomena were mild. The most severe was the aphonia which occurred in Case IV. It disappeared very slowly. In another (II), there was paralysis of the soft palate, and in another (XII), tingling of toes and fingers. Though only one case of disordered vision came under my notice I was told of several others after the patients had recovered.

In those cases where the disease spread from one member of a family to another, the symptoms were, as a rule, similar, though Cases IX and XI were exceptional. These show that a mild case can give rise to a severer one, and *vice versa.*

I have had a great number of cases in all, and it is a matter of astonishment that more were not followed by nervous phenomena.

When the disease affected the Eustachian tubes it was remarkable that firm pressure in both ears relieved the pain produced by swallowing.

Most of the cases occurred in houses where there were other children, and yet in a large number infection of other persons did not take place.

The connexion of this disease with scarlet fever and measles, is, I believe, only accidental. In Case XII the bad throat in the mother's case preceded the rash, and in the girl the throat deposit was contemporaneous with desquamation.

Some of the cases in Class 2 looked like what is ordinarily called ulcerated sore throat, and at any other time than when diphtheria is rife I should look upon them as such.

Two cases (VIII and XIX) exactly resembled follicular tonsillitis. While I was attending these cases of diphtheria I had five cases of aphthous stomatitis, the whole of the mouth being affected in two of them, and in one of these, an adult girl, the throat as well; here too the prostration was very marked, and the convalescence prolonged. No membrane whatever was formed. In the other three the patients were cousins, and contracted the disease, which was of mild character, one from the other.

One case of diphtheria was followed by a large herpetic vesicle on the soft palate. The girl who had this is delicate, and often has one or more vesicles on the eye. Another girl, after her throat was nearly well, developed herpes on the tongue and inside the lips and cheeks.

Another patient had one or more aphthous spots on the tonsils, at the same time as the diphtheritic patches were upon them. At this time there was a depraved state of the general health due to a vitiated state of the atmosphere. Take for instance the girl reported in Case V. I am not sure that this was diphtheritic, for I have not noted whether there was any false membrane. However, it was an asthenic illness. I attended a child with pneumonia of mild character, followed by another case of the same disease in another child of the family. I lost a case of chronic catarrhal pneumonia occurring in a young child previously very healthy and robust. Measles, scarlet fever, and whooping cough, were prevalent. That epidemic sore throat was not confined to this district is shown by the facts that one of my cases brought the infection with her from a school in Shropshire, and became ill two days after arrival at home. Another girl came home from a school in Lincolnshire, where she reported sore throat had been prevalent. With reference to Case XVI there is some doubt in my mind whether the girl's case was one of diphtherial pneumonia, or whether it was ordinary pneumonia, the result of a chill occurring in a subject already in a very depressed state from diphtheria. The occurrence of pneumonia in Case IV supports the former theory. In the latter case there would be only three days' incubation. However, the existence of fever on the 2d of March, and the pleurisy not occurring till next day, show, I think, that the pneumonia was a constitutional disease. Case XX is interesting as showing a connexion between diphtheria and rheumatism.

The patient was generally kept apart, but often the nurse had other duties to perform. A special outer garment for the sick-room was recommended to the nurse, and disinfectants were used, but the cases show that these alone are not sufficient to prevent other cases arising. And I believe the mildness of the cases obscured their seriousness in the minds of people. One case I had very well illustrates the value of isolation and disinfectants. There was a house full of children, and the eldest boy, who was ill with patchy tonsils, similar to Case XIX, was kept in a room alone, he being old enough to look after himself. His father, who was away at business all day, sat with him in the evening. His meals were left at the door for him, and sanitas fluid was used freely all over the house. No other case arose. Why the baby escaped in Case XVIII, and why the nurses escaped in Case I and IV, I cannot conceive. No systematic disinfection was used in Case I. I suppose we must conclude that babies and adults do not take the disease very easily.

The treatment described was adopted because of the difficulty of teaching young children to gargle. Where the patient was old enough, he was made to gargle with a weak solution of permanganate of potassium, and then take beef-tea, and then medicine every hour. He was allowed anything else he chose to take in addition, provided that it was nutritious in character.

Where the gargle could not be used, I was satisfied with the mixture. I have long been in the habit of using chlorate of potassium in throat affections for its local effect, and I believe the addition of hydrochloric acid sets free a little chlorine which would act as a disinfectant. Whether the quinine has any topical effect I cannot say. If the diseased part were in the larynx or at the posterior nares, *i. e.*, where it could not come into contact with anything swallowed, I do not think the mixture would be so useful, nor the gargle either. In such a case I use a spray of carbolic acid or of some other suitable fluid. This method is far preferable to swabbing, as there is nothing disagreeable about it.

This epidemic of diphtheria was evidently of mild type, and, generally speaking, the cases became milder as time went on. I have no doubt this was one cause of its spread. Many cases were doubtless treated by home remedies, not being considered severe enough to call for a medical man. Such patients would be allowed to play with other children before all infection had disappeared, as occurs in other infectious diseases. And I have reason to believe that infection exists for a variable time after the membrane has disappeared.

As to the causes of the disease, it is to be sought for in a depraved state of the atmosphere. In only three cases did I find likely causes in the dwellings. In one there was a very bad state of the drainage arrangements, together with accumulation of filth; in another there was a strong upward current through a grid in the cellar, and in the other close small rooms, many inmates, and close proximity of privy. Many cases arose in houses where the drainage arrangements were apparently good. These would most likely arise from infection from other cases, in schools for instance. Cases occurred early in the epidemic in houses widely apart, showing that the cause was not confined to one spot, and in children attending different schools.

The milk supply was not at fault, so far as I am aware, for the district is supplied by many milk dealers, some of whom reside in this locality, and others in outlying districts.

Cosmetics.—Their Constituents and General Effects, with a few. Special Cases other than Saturnism.

DR. JAMES P. TUTTLE thus writes in the *Med. Record:* It is a reproach to modern civilization that one should find occasion, in this day of enlightenment, to raise his voice against the use of cosmetics.

Æsthetics has done much to cultivate a taste for natural beauty, but it has not yet taught our ladies to appreciate the natural skin above its artificial equipments, except when they see the latter on a rival beauty's face; and the science of chemistry and art of pharmacy have been exhausted to prepare delicate colorings and bright enamels for the complexion. It seems to have been a conception of the ages past that these adornments added to the personal attractions of men as well as women, inflaming passion and calling forth amorous ebullitions in the opposite sex. That it *should* be held in disrepute will not be questioned, for it was those whose consciences did not falter at whatever means to gain an end—the vicious and vulgar, the harlots and witches—who were the originators of these practices.

Proud Jezebel painted her face to meet the victorious Jehu, and the prophet charges among the abominations of Ahola and Aholibah, "thou paintedst thine eyes and decked thyself with ornaments to meet strange men."

With such unsavory precedents, it would seem that this relic of barbarism would hardly find its way into the better classes of society. But, indeed, it has, and is fast gaining ground, becoming less obtrusive and bold, but more disastrous in its effects, with every round in the social ladder.

Not only has refinement increased the virulence of cosmetics as a rule, but the more social obligation one has, the more is she compelled to be adorned (?), and have her face pasted, powdered, or painted with these preparations.

Their constant use becomes necessary, because, with one exception, those who use them are ashamed to have it known, and the neglect of their artifices for a single day might expose them to their friends or rivals.

In order to recognize and appreciate the effects of these preparations, it is necessary to acquaint ourselves with their general and possible constituents.

Formerly the process of adornment, in the better classes, consisted of very simple preparations, accompanied by much polishing or kneading of the skin, a process, indeed, more healthful than otherwise. Elder-flower water, almond oil, and bean-flower water, are examples of the preparations used. Says Samuel Johnson: "I was never allowed to sleep till I passed through the cosmetick discipline, part of which was regular lustration performed with bean-flower water and may-dews."*

But this practice did not cover up deformities or remove defects, as freckles, moles, or tan; and stronger preparations began to be sought. Oil of cashew gained a favorable reputation in the removal of sunburn and freckles, but the pain following its use brought it into disrepute.† After this the use of corrosive sublimate came into vogue, and rose or elder-water was beaten down with bitter almonds, and this drug added in varying proportions. Then came the face powders to cover up deformities, in which are incorporated bismuth, calcium, zinc, lead, French chalk, etc. These preparations are largely sold to-day. In 1870, Dr. W. E. Chandler published his report to the Metropolitan Board of Health on "Dangerous Cosmetics." He there showed that, with one exception, sixteen hair tonics which he was able to examine contained carbonate or other compound of lead. The exception, "Hoyt's Hiawatha Hair Restorative," contained nitrate of silver. Sulphur was incorporated with the lead to produce the black sulphide. After analyzing a number of "*lotions*," containing, with one exception, "*no injurious metal*," "*enamels*" containing zinc and lead generally, and "*powders*" composed of calcium, French chalk, magnesium, and bismuth, he concludes:

1. With few exceptions, hair tonics, washes, and restoratives contain lead in considerable quantities; that they owe their action to this metal, and are highly dangerous to the health of the person using them.

2. With a single exception, Perry's Moth Lotion, the lotions for the skin are free from lead or other injurious metals.

3. That the enamels are composed of carbonate of lime, oxide of zinc, or carbonate of lead, suspended in waters. The first two classes of enamels are comparatively harmless—as harmless as any other white dirt, when plastered over the skin to close its pores and prevent its healthy action. On the other hand, the enamels composed of carbonate of lead are highly dangerous, and their use is certain to produce disastrous results to those who patronize them.

4. The white powders for the skin are harmless, except in so far as their use may interfere with the healthy action of the skin.

I have stated these conclusions in full on account of my respect for their author, and because they come partly at the truth; nevertheless, I shall have to differ materially from the latter three. Carrying the analyses further, I have derived the following:

POWDERS.

Preparation.	*Main Constituents.*
Pearl White	Subnitrate bismuth.
Flake White	Carbonate lead.
Saunders' Face Powder	Oxide of zinc.
Complexion Powder	Bismuth subcarbon.
Riker's Face Powder	Carbon, calcium and zinc.

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* Rambler, No. 130.

† Granger: Sugar-cane. Note to v., 137.

LOTIONS.

Circassian Cream	Corrosive sublimate.
Kalydor	Corrosive sublimate and potash.
Milk of Roses	Corrosive sublimate, rose water and ol. almond.

ENAMELS.

Laird's Bloom of Youth	Oxide zinc and calcium.
French's Grease Paint	Oxide zinc and calcium.
Gouraud's Oriental Cream	*Calomel and water.*
Hagan's Magnolia Balm*	Oxide zinc.
Bradford's Enameline*	Oxide zinc.
Eugenie's Favorite*	Carbonate lead.
Snow White Enamel	Carbonate lead.
Snow White Oriental Cream	Carbonate lead.

It is a popular misconception, into which Dr. Chandler has almost fallen, that only those preparations containing lead are deleterious in their constitutional effects. The fact that mercury is contained in any of these preparations will be a surprise to many of their patrons, and convincing proof that "warranted free from lead" does not make them harmless.

The similar behavior of lead, mercury, zinc, and bismuth, with the alkali metals found in the blood, would in the beginning suggest an analogy in their physiological effects.

That this expectation has been at least in part met, is exemplified in the differential diagnosis of chronic lead and mercuric poisoning. The acute toxic effects of these drugs are no less similar, and I am persuaded that zinc, and possibly bismuth, may have produced the same general effects.

The assumption that all dangerous cosmetics contain lead is more general than one would suppose, and due to two facts, viz.: formerly the majority did contain it; and, secondly, many cases of poisoning closely resembling plumbism have been brought about by the use of these preparations. But the similarity of effects produced by other drugs invalidates conclusions on these grounds, and, moreover, preparations which it is positively asserted have produced acute and chronic plumbism, contain no lead whatever, but salts of zinc, as we shall see further on. Workers in zinc have been frequently attacked with so-called lead-poisoning, said to be due to the latter metal in combination with the zinc, and it is claimed by some that they are even more subject to general progressive muscular atrophy than workers in lead. Furthermore, they are equally subject to constipation, colic, and hemorrhages from the lungs.† Says Dr. Bartholow, "All the salts of zinc, when long continued, may produce a train of symptoms not unlike those of lead, viz.: emaciation, pallor, loss of strength, constipation, colic, muscular weakness and trembling, paralysis, etc. The oxide in large doses, and continued for a long time, has produced a fetid breath, wasting, gastro-intestinal catarrh, and feeble-mindedness.‡ Ringer bears similar testimony as to the effects of this metal.‖ Oxide of zinc, used in painting, has produced colic similar to that of lead.* To argue contrary to this on the ground of frequent indiscriminate use of the officinal ung. zinci oxidi would be of no avail, as this could be offset by the similar and harmless use of pure carbonate of lead in burns, scalds, and wounds.

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* Chandler.

† Amer. Dispen., 1548. Bot. Kin. Med. Chir. Rev., 1878.

‡ Mat. Med. and Thera., 230.

‖ System Therap., 257.

That the substances are insoluble offers nothing to the contrary of their constitutional effects, for it is well known that solid particles, finely divided, find their way into the lymphatic, and thence into the general system, more readily than watery solutions.†

Of the effects of the local use of mercury, it is unnecessary for me to speak. For its disastrous results one need only consult the nearest work on therapeutics or toxicology. I have seen, in one case, severe salivation produced by the local use of less than three grains of calomel, and torturing cramps and nausea from a weak solution of the corrosive chloride for pediculus capitis. Numerous instances of necrosis, gangrene, and death from equally small doses are on record.‡

Bismuth is an astringent metal, and besides its effects in stopping up the pores and preventing the healthy action of the skin, it has been known, used as a cosmetic, to produce "clamminess, nausea, and spasms," differing in degree only from those of lead, mercury, and zinc.|| Notwithstanding such facts, all of these metals are freely used in the cosmetic preparations for sale in every pharmacy, and there is no law to protect the public against them. Lately I have come in contact with five cases of poisoning by cosmetics, confirming the opinion hereinbefore set forth.

Mrs. ———, a lady in good society, came to my office to ask if it were possible to be poisoned by cosmetics. I replied, "Most certainly," and she related the following: A few days before, she had begun the use of a new cosmetic, recommended by two of her friends. She applied it while dressing for dinner, and on the second evening, about an hour after the preparation had been on, she noticed a metallic taste in the mouth, and was seized with nausea and "cramps in the stomach." The cramps were severe, but supposing they were due to simple indigestion, home remedies were used to make them tolerable. On the following day small vesicles appeared at the corners of the mouth. The "cramps" continued, and in the evening, after another application of the lotion, they increased and the nausea returned. There had been no diarrhœa, but rather the opposite. On the day after this I saw her, when the cramps had greatly subsided, but the herpial eruption remained about the corners of the mouth; there was not much swelling or tenderness of the gums, but rather increased salivary secretion and constant metallic taste in the mouth. On discontinuance of the use of the preparation, the symptoms disappeared and have not since returned.

Case II., a friend of the former patient, who had been using the same cosmetic, is similar in every respect to the last with the exception of severer cramps perhaps.

Case III., Miss ——, has used this same preparation for some months. During

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* U. S. Dispensatory, 942. Chemical Gazette, September, 1850.

† Foster's Physiology.

‡ Taylor on Poisons. Med. Times and Gazette, ii., 1881; i., 1882 *et al.*

|| Am. Encycloped. Yeman's Mich. Board of Health Rep., 1880.

this time she has been confined to her room several times by "cramp colic," nausea, etc. She has a constant metallic taste in the mouth, and lately has not only lost flesh, but also power in her right arm and leg, and has severe aching pains in her limbs.

I obtained the remaining part of the preparation which my first patient had been using, and on chemical analysis found it to contain almost nothing save pure chloride of mercury and water. To prevent error an unopened bottle of the same was procured from a reputable pharmacist, an examination of which exactly coincided with the first. A little sugar, supposably to give lustre to the enamel, is inserted. And yet this preparation, "Gouraud's Oriental Cream," is labelled "*the most elegant and delicate preparation for the skin ever invented.*" Comment is unnecessary here—further than to add, an average application contains from four to ten grains of the drug.

Case IV., Miss I——, is a young lady who has been using "Laird's Bloom of Youth" for a long time as a cosmetic. She suffers with colics, metallic taste, constipation, weakness, atrophy of the muscular system (and diminished reflex activity?). Numerous instances of injury from this preparation have been related, and some have been published.* An examination of the preparation shows it to contain no lead, but oxide of zinc and a small amount of calcium carbonate.

Lately a case from St. Vincent's Hospital was reported in the daily papers of this city as one of "lead poisoning" from cosmetics. Dr. Herold, the physician in charge, was kind enough to tell me that there were some of the symptoms of saturnism wanting, and that the preparation she had been using was "grease paint." I obtained a "stick" of this, and on examination found it to contain no metal save oxide of zinc, with calcium and tallow. This and similar preparations are largely used by theatrical people, under the impression that they are entirely harmless; yet I doubt not much of the colic and malaise, so abundant in this class, is produced by them.

Of the powders containing only calcium, magnesia, and French chalk, I am unable to affirm any constitutional effects beyond those due to stopping the pores of the skin; but they are certainly very prejudicial to the healthful action of that organ, and many a fair complexion has been ruined by their use.

Bismuth is becoming less used on account of its changing its color in the presence of certain gases, and its expensiveness. Here let me say the manufacture of cosmetics is no profitless business. As early as the publication of the *Spectator*, No. 33, it was said, "I have known a physician of learning and sense, after eight years' study in the university, and a course of travel into most of the countries of Europe, owe the first raisings of his fortune to a cosmetic wash;" and, if I mistake not, some in our present day could see their financial fortunes rise by peddling cosmetics instead of pills.

I have already said enough to anticipate what I shall here add as conclusions from this study.

First.—All preparations which can clog the pores or irritate the skin are prejudicial to the health and beauty of that organ.

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*St. Louis Courier of Med., 1879. Michigan Board of Health Rep,, 1880. Kentucky State Med. Soc., 1881.

Second.—Lead, mercury, zinc, and bismuth, may be absorbed into the system from their application to the skin, produce the same general constitutional disturbances, differing mostly in degree, and are harmful in their respective order.

Third.—Dyspepsia, nausea, constipation or diarrhœa, colic, emaciation, tremors, paralysis, and weakmindedness, may be brought on by the use of these preparations.

Fourth.—All cosmetics belonging to either one or the other of these classes produce local or systematic injury, and are therefore unfit and dangerous to use.

Fifth.—A law should be enacted requiring all manufacturers to print in full all articles contained in their preparations, and at the same time prohibiting the sale of those containing the more dangerous metals.

It is futile for manufacturers to sign themselves chemists and M. D.'s, and claim that these are the drugs used by physicians for skin complaints.

An engine, with the hand of a skillful engineer on the throttle, is a useful thing, but let an ignorant passenger take his place, and it will dash onward to destruction with its precious freight. So, also, with these drugs. As physicians we should learn the best ways to perfect the human skin, and yet we should fail to do our duty to society did we not use every means in our power to check these vicious and dangerous practices.

Albuminuria—Its Pathology and Clinical Significance.

A very valuable discussion on this subject was recently held before the Glasgow Pathological and Clinical Society. Professor Gairdner introduced the discussion by a short review of the historical aspects of the subject. He stated that, previous to the time of Bright, albuminuria was usually considered to be a mere secretion or transudation of blood-serum, and raised the question as to whether or not this was altogether an error. Bright himself did not do or say anything to change this view, but he insisted on, and proved the fact, that this leakage or excretion represented in many cases, and always when associated with dropsy, etc., a change or changes in the structure of the kidney, which when chronic were mostly irreparable. He then considered the question whether Bright's disease was one of several distinct diseases. Bright did not dogmatize on this point, but, subsequently to his time, diseases which were not now described as characteristically Bright's disease, were regarded as such, *e. g.*, fatty kidney, cystic kidney, etc. No doubt the impulse given by anatomical researches produced a marked effect upon the current opinions; but by too exclusive attention to cases tending towards a fatal termination, practitioners were discouraged in the treatment of Bright's disease, and the prognosis was rendered unduly grave. Pathological research, however, had in this, as in other departments, by more careful observation, corrected the errors to which less perfect methods of investigation gave rise.

Dr. Gairdner referred to the case mentioned by Dr. Roberts in his address at the last meeting, of a patient suffering from albuminuria, in whom the left ventricle had become hypertrophied, and remarked that such a circumstance was very unusual, and therefore of great interest. But still it must be admitted that the prognosis of Bright's disease, except in the most acute form, and even in some cases of the acute form, was very unfavorable, perhaps regarded unduly so, owing to the absence of *post mortem* evidence of the cure. It had, however, been shown, by examination after death, that persons recovered from organic disease of the kidney just as it had been demonstrated that recovery from phthisis, tuberculosis, etc., was possible. He then remarked that there were various opinions entertained with regard to the unity underlying Bright's disease, of which albuminuria was one, but only one, expression; and said that, in his opinion, although the different forms might vary in detail, yet there were distinct indications of an obvious relationship between them. He then mentioned the views of Dr. Mahomed; but, seeing that he was present, did not discuss them at any length. Dr. Gairdner said that, in his own early experience of pathological investigation in kidney diseases he used to liken renal albuminuria to pulmonary catarrh of the finer or terminal air-tubes, not only in respect of its being a transudation or exudation of proteids from the blood, but because of its leading up to indefinitely numerous disorganizing lesions, without being itself a disorganizing lesion. Both albuminuria and pulmonary catarrh might be mild or severe, transitory or persistent, acute or chronic, and the prognosis might be regarded as favorable or unfavorable, according as there were complications in other organs. As our field of experience ranged over simple or grave cases, so would our prognosis be favorable or the reverse. Probably the current ideas of the last half century had been towards a too grave prognosis, on the whole, but this was a long way from accepting Dr. Roberts's proposition of an albuminuria of health, or, still more, of a physiological albuminuria. He did not dispute Dr. Roberts's facts, but could not accept this last expression without some demur, or perhaps some alteration of its terms. Albuminuria might occur in persons apparently healthy, but it might persist and become habitual without being regarded as an abnormal or morbid condition. Dr. Gairdner mentioned a case where a patient had a distinct cardiac murmur, persistent since boyhood, and who was ultimately the father of two families; and yet there was no indication, other than the murmur, of any disease. He also referred to a case where there was crepitation over the upper lobe of one lung, heard on every occasion when sought for, and yet not associated with any evident deterioration of the health, and asked if these cases, from the fact that they were not accompanied bv discomfort to the patient, or visible evidences of disease, could be regarded as physiological. But while he did not dispute the facts brought by Dr. Roberts, he was inclined to consider the presence of albumen in the urine as at least a warning which could not be altogether overlooked.

Dr. Mortimer Granville restricted his remarks to the second phase of the subject, namely, "the clinical significance of albuminuria," discussing the physiological pathology of the presence of albumen in easily discoverable quantities in the urine when voided; whether its occurrence were due to excessive filtration, caused by relatively excessive blood-pressure, or to failure in the hypothetical process of re-absorption, by which as some thought, albumen, having been thrown out from the blood under normal conditions, re-entered the current. In his opinion, the influence of the nerves of the kidney, in their connection with, and relation to, the cerebro-spinal centres, more particularly the vaso-motor centre, and the sympathetic system, as illustrated by the known experiments of physiologists, to which he briefly alluded, supplied a sufficient explanation of the occurrence of albuminuria without kidney-disease in cases which could not be classed as instances of "physiological albuminuria," or described under either of the special heads already suggested, such as "the albuminuria of puberty," "the albuminuria of adolescence," etc. The author then directed attention to two not generally recognized classes or groups of cases in which albumen frequently occurred in the urine without organic disease. First, there were cases of young men in which the genito-spinal centre had been debilitated and rendered preternaturally excitable, not necessarily by sexual excess, but by the struggle to repress and restrain the passions, a mental and nerve-centre excitement which might be so wrought up as to prove as mischievous in its effects as excess or abuse. In these cases, he said, albuminuria frequently occurred, and was either overlooked or wrongly regarded as evidence of kidney-disease; the latter mistake being the more likely to be made, because there were frequently pains in the region of one kidney, generally the right, and, as often happened when neuralgia of viscera was accompanied by vaso-motor disturbances, "pain or pressure." The second class of cases to which he directed attention consisted of studious or sedentary men of middle age, who suffered from mental depression and "nervousness," with, perhaps agoraphobia or claustrophobia, or both. In these cases albumen was often found in the urine, and, in some instances its appearance alternated with that of sugar in small quantities, pointing significantly to the location of the excitement, or the glance of the reflex, and suggesting the fact of nerve-centre disturbance as the cause of the malady. He pleaded for the recognition of these varieties of albuminuria without kidney-disease, and, insisting strongly on the scientific error of placing the albuminuria in the first of these cases, with the result of creating needless alarm, and in too many instances producing grave mental depression, urged a wiser and better use of the urinary test-box, recommending that the urine of all patients should be examined both for albumen and for urea. Under this more extended practical and more precise method of research, he believed it would be found that albuminuria without kidney-disease was by no means uncommon.

Dr. Mahomed first passed in review the evidence afforded by experimental observations, by clinical observations, and by morbid anatomy, as to the conditions giving rise to albuminuria. He pointed out the inability of the physiologists to produce variations of arterial pressure by retarding or accelerating the capillary circulation throughout the body, and suggested that investigation into the variations of the tension and the rapidity of the interchanges of the gases in the blood and tissues were urgently needed. He criticised the theory, propounded by Professor Hamilton, that the increase of arterial pressure was due to the diminished specific gravity of the serum; and pointed out that the specific gravity of the serum was not usually decreased to any considerable extent in Bright's disease, quoting the observations of Quincke in support of this. He stated that reduction of the specific gravity had only been observed in cases of long standing, and was probably very gradually produced; while, to account for the increase of pressure in Bright's disease, it was necessary that the alterations in specific gravity should be very rapid, that they should be produced in a few hours; a belief in such a rapid change of gravity was contradicted by the results of all previous physiological experiments on the subject. The rapidity of the circulation of blood in the normal Malpighian glomerules, owing to their immediate connection with large arteries, and also to the large size of the glomerular capillaries, was dwelt upon. It was pointed out that the circulation in them was probably more rapid than in any other capillaries in the body; and conclusions were drawn, from the previous observations, that the retardation of the glomerular circulation, combined with increased pressure in, and increased distension of, the glomerular vessels, were the chief factors in the causation of albuminuria. It was pointed out that, while water might readily transude from the glomerules under normal pressure and rapidity of blood-flow, albumen, being left diffusible, would probably be retained; but that slight delay and increased turgescence of the glomerules might permit of the exudation of paraglobulin and other more diffusible forms before the appearance of serum-albumen.

The immediate causes of albuminuria were classified as follows: 1. Increased glomerular pressure, and slowing of the blood-flow in the glomerules—*a*, from general increase of arterial pressure, with local hyperæmia of the kidney, due to disorder of the other excretory organs, especially the skin and bowels (this might occur as a functional condition); *b*, from general increase of arterial pressure, aided by the increased distension of the glomerules, owing to obstruction of the tubular plexus of capillaries, either by distension of the tubules by their epithelial contents or by compression of tubular plexus by fibroid growth; *c*, from increase of arterial pressure in the kidney, due to derangement of the nervous system, either local, general, or reflex; *d*, from obstruction to the return of the venous blood. 2. From alteration in the tissue of the blood-vessel, tube-walls, and epithelioma, produced by acute inflammation or infarction. 3. From the presence of abnormal forms of albumen in the blood-serum. It was stated that a large number of forms of albumen were found in the urine; that they were very mutable bodies, and were constantly undergoing change; that, consequently, heat and nitric acid failed to detect many of them. For these and other reasons, the use of such tests as the brine-test, picric acid, and potassic mercuric iodide were advocated. It was stated that these were good negative tests. The fallacies of a large number of tests were pointed out, and their respective advantages were indicated. It was shown that many cases occurred in which albumen, detected by nitric acid and heat, alternated with a form of albumen only recognized by the more delicate tests, especially brine and picric acid. The albuminuria occurring in healthy persons was next considered. Dr. Mahomed said that he had found albumen in the urine of 9 out of 58 persons (*i. e.* in 15.5 per cent.) thought to be healthy, whom he had examined previous to life-insurance during the past year. Details of the cases in which albumen was found were reported, and it was shown that 7 out of the 9 cases were clearly not in perfect health, and it was suggested that many such cases were produced by temporary functional disturbance.

Albuminuriæ were divided, for diagnostic purposes, into several groups. 1. Cases of fully developed Bright's disease. 2. Cases with the cardio-vascular symptoms and changes of Bright's disease, but with only slight and occasional albuminuria. 3. Cases in which the albuminuria was considerable and prolonged. These were subdivided into: *a*. Those with no other symptoms of Bright's disease; the arterial pressure not being increased; the quantity of albumen being small; prognosis good. *b*. Those without increase of arterial pressure, the quantity of albumen being large; prognosis hopeful. *c*. Cases in which the albuminuria was persistent, and was associated with increased arterial pressure. Prognosis grave, but never hopeless. 4. Cases of temporary and intermitting albuminuria associated with anæmia, debility, nervous depression, or some other condition which could often be easily recognized. Several cases, with sphygmographic tracings illustrating these groups, were related. It was pointed out that Bright's disease had two distinct aspects, the renal and the cardio-vascular; albuminuria affording evidence of the one, high arterial pressure of the other; and that either of these might be present for many years without producing grave symptoms or giving rise to any anxiety; their existence merely told of possible dangers in the future. If both albuminuria and high arterial pressure were present, the cause for anxiety was greatly increased. The chief advantage of recognizing the condition was, that it afforded the key to the general management and treatment of the case, and of the most effective way to deal with the small ailments which might from time to time arise. In conclusion, Dr. Mahomed stated his views concerning Bright's disease briefly as follows. The first step was the existence of an acute or chronic form of blood-poisoning, either due to some definite form, such as scarlatina, alcohol, or lead, or to the blood being laden with excrementitious matter, as in gout or pregnancy. This produced two results; a rise of blood-pressure from impeded capillary circulation throughout the body, and a more or less severe functional hyperæmia of the kidney, the chief excretory organ of the body; chill, constipation, or an excessive amount of poison might now determine an acute inflammation of the kidney, and the structural changes might produce albuminuria by obstructing the circulation through the tubular plexus. If no inflammation took place, and the condition remained chronic, albuminuria might be only occasionally present, and that in small amount; but the cardio-vascular changes took place as the result of prolonged high arterial pressure. The subsequent symptoms would depend on the situation and extent of the change in the kidneys.

Dr. James Finlayson said that his remarks would be entirely confined to the clinical aspects of the subject, with special reference to the theory that, in a large majority of cases, albuminuria might be regarded as of toxic origin. It was well known that many organic and mineral poisons had the power of causing the appearance of albumen in the urine. He need not refer in detail to those, as they were mentioned in the various text-books. Cantharides, when taken into the system, might be regarded as producing a somewhat acute albuminuria, whereas lead set up a more chronic variety. Turning now to more definitely pathological conditions, it was known that many specific fevers were associated with the presence of albuminuria, which was probably to be explained by the action of the poisonous material circulating in the blood. This albuminuria was notoriously a result of scarlet fever, and the same might be said of small-pox and malignant pustule, the pathology of the latter having been carefully worked out by Professor Greenfield, who was present. In cases of pneumonia, which was closely allied to the specific fevers, albumen was frequently discovered in the urine. Referring to the albuminuria of pregnancy, he thought that it was not altogether to be explained by the effects of pressure, as it was often found in the early stage when these could not be present, and supported this idea by the fact that in some cases where the fœtus had died *in utero*, the albumen had disappeared from the urine. He referred to lead as being one of the causes of disease of the kidney, the lesions of which were closely allied to those occurring in gouty subjects. But while both of those forms of disease had been demonstrated to be common in London practice, they were almost entirely unknown amongst the patients met with in hospital practice in Glasgow. Without expressing an opinion as to the influence of the bacillus in the causation of tubercular disease, he recognized the fact that there were many points of resemblance between tuberculosis and the specific fevers, and regarded the pathology of albuminuria in tubercular subjects as being probably capable of a similar explanation as that occurring in febrile affections. In conclusion, he remarked that all these points which had been mentioned seemed to him to lend strong support to the idea that in many cases albuminuria was probably of toxic origin.

The Cold-Bath Treatment of Enteric Fever.

Before the Medical Society of London, Dr. SIDNEY COUPLAND read a paper on this subject, based upon his experience at the Middlesex Hospital during the years 1879–1883 inclusive. Disclaiming any intention to discuss at length the *rationale* of the measure, which had been ably done by Dr. Cayley, to whom the author was under deep obligation both for example and precept, he pointed out that three lines of treatment were open to us in dealing with a specific fever—viz., the specific, the expectant, and the antipyretic. In spite of much advocacy of various remedies, specific treatment was yet to be discovered. Expectant treatment acted on the knowledge of the lesions and complication of the fever, and was directed to mitigate their severity. In so far as antipyretic measures were reserved for excessive rises in temperature, they fell under this head. But the strict antipyretic method recognized the fact that the action of continued pyrexia was harmful *per se*, and was directed to control this throughout its course. Its advocates believed that the systematic adoption of such measures would result in a greatly diminished mortality, and in very marked improvement in the mental and physical state of the patient during convalescence. Dr. Brand, of Stettin, for more than twenty years the consistent advocate of this treatment, went further, in declaring that the local lesions themselves are abated; and, indeed, that cold (when employed from the outset,) acted specifically in arresting the typhoid process. Antipyretic treatment could be carried out by drugs, or by the application of cold to the surface of the body. Amongst drugs, quinine (in large doses), salicin and the salicylates, and kairin, were the most effective; but Dr. Coupland doubted the wisdom of relying solely upon such powerful medicinal agents. He then described briefly the three methods of cooling the body: (1) sponging; (2) compress; and (3) the bath. The last might be employed in various ways; but, mainly, he had found that a bath of 70° or 75°, for ten minutes, was more efficient than the graduated bath (90°, cooled to 75°), or the tepid (85°). As a rule, recourse was had to it when the temperature of the body reached 103°; whilst sponging and the compress, which were much less powerful in action were employed at 102°. Some patients disliked the measure so much that it was not advisable to press it; most, on the contrary, submitted to the temporary discomfort for the sake of the sense of comfort and ease which followed; some found it agreeable.

The apparatus in use at the Middlesex Hospital, planned by Mr. Fardon, the resident medical officer, and constructed by Mr. Hawksley, to lift the patient in and out of the bath, was exhibited, and its action explained. The patient should be completely immersed except the head and shoulders; and, on removal, should be very lightly covered with a sheet or coverlet. Charts contrasting the antipyretic effects of these three methods were shown. The object of the antipyretic treatment was not to meet the emergency of hyperpyrexia, but to safeguard the organism from the effects of continued fever; and the action of the cold lay not merely in abstraction of heat, but also probably in stimulating the "heat-controlling centre," and perhaps acting on the central nervous system generally. The author then proceeded to inquire more closely into the effect produced by the treatment. He pointed out the fallacy underlying all mortality statistics, and quoted the figures furnished by the records of the Middlesex Hospital from 1867 to 1883 inclusive, giving 823 cases of enteric fever admitted, with 122 deaths or 14.8 per cent. mortality, a rate which varied in each year, being as high as 28.8 per cent. in 1876, and as low as 2.5 per cent. in 1880. The mortality in the London hospitals from enteric fever, corresponded with this, viz., from 15 to 18 per cent. Statistics of Brand, Liebermeister, Mosler, Glenard, and Mayet, were also quoted, contrasting the mortality before and since the adoption of the bath-treatment, giving a mean reduction of from about 20 to 8 per cent. Pushing the comparison further, and analyzing the causes of death in enteric fever, Dr. Coupland pointed out that of the nine fatal cases treated at the Middlesex Hospital in 1873, four died from pulmonary congestion and other effects of high fever, and that, in three of these, treatment was commenced in the first week, whereas, in his present series of 69 cases, there was only one death from hyperpyrexia and pulmonary congestion, and that was in a case admitted in relapse. One patient who contracted the fever in hospital, died from perforation; but none of them admitted in the first week, and only one admitted in the second week (a case not bathed), died, also from perforation. Pursuing the same line of argument, he compared the total number of deaths from (*a*) "pyrexial causes;" (*b*) intestinal lesion; (*c*) intercurrent affections, and (*d*) sequelæ. Of 278 cases in the years 1873–78, and of 365 cases in the years 1879–83, the mortality rate on each head was in the first period—(*a*) 8.7 per cent.; (*b*) 5 per cent.; (*c* and *d*) 2.5 per cent.; and in the second period—(*a*) 3.0 per cent.; (*b*) 9 per cent.; (*c* and *d*) 1.4 per cent. So that whilst of late years the mortality from pulmonary congestion, etc., had much decreased, that from intestinal complications had increased.

He next proceeded to analyze the series of cases under his personal observation (89 in number), of all ages, from three to 40, 51 being males; and tables showing the various antipyretic measures, and dates of their employment, were presented. Fifty-six were bathed, but in 26 of them only from 1 to 5 baths were given; in 11, from 5 to 9 baths; in 16, from 10 to 19 baths; and three cases had 26, 29, and 48 baths respectively. The mortality on the whole number was 7.8 per cent.; on the bathed cases (the severest), 8.9 per cent.; those not bathed, 6.0 per cent. A summary of the leading features of the 19 cases treated with more than 10 baths was given; and brief details of two cases related to explain the mode of treatment. Special attention was also directed to the facts of each of the seven fatal cases, which included four deaths from intestinal perforation, one from intestinal hæmorrhage, one from cardiac disease (long after defervescence), and one from hyperpyrexia. This last case was of especial interest, since the patient had passed through a mild primary attack of fever, and was admitted in the fourth week in a relapse of great severity, the temperature exceeding 105°. In spite of repeated bathing, sponging, and administration of quinine, the fever could not be controlled, and the patient, a youth aged seventeen, died on the tenth day of the relapse. The *post mortem* examination revealed great swelling of the spleen, fluidity of blood, blood-stained fluid in the serous sacs, intense pulmonary congestion, in addition to numerous recently swollen follicular intestinal glands, and a few denuded ulcers. In this case the treatment failed, partly on account of its late adoption, but partly because under no treatment do all cases of hyperpyrexia recover. As to the large relative proportion of deaths from intestinal lesions, Dr. Coupland doubted if these could be attributed to the use of the bath, depending as they did upon the severity of the local process. He showed how the degree varied in different epidemics, and how, in hospitals, many cases were admitted late in the disease, with the lesions far advanced. At the same time, it was well to be cautious in the disturbance of the patient when signs of severe local lesion were present. He then gave a brief summary of the debate at the Paris Academy of Medicine in the winter of 1882–83, when the bath treatment was very severely handled by MM. Dujardin-Beaumetz, Hardy, Germain Sée, and Peter. The catalogue of diasters which are attributed to it by these and other speakers was alarmingly large, and was wholly irreconcilable with the results furnished to the Academy by M. Glenard, of Lyons, and attested by twenty-two out of twenty-four hospital physicians of that city, as well as with the facts of the cases observed by Dr. Coupland, who could come to no other conclusion than that those who condemned the treatment did so on insufficient grounds. The value of the antiseptic treatment was seen in allaying nervous symptoms, diminishing prostration, in obviating the dangers of death from pulmonary congestion and collapse, in improving the digestive and assimilative functions, and in leaving the patient in a condition far more favorable to rapid recovery. It did not appear to increase the liability to intestinal hæmorrhage or to perforation, which depend on the severity of the local lesions, and it reduces the mortality from the disease. The treatment must be commenced as early as possible, and continued without intermission, so long as pyrexia lasts, in spite of pulmonary complication. If there were signs of grave intestinal lesion, then the compress, or sponging, were to be preferred to bathing. Hæmorrhage, peritonitis, extreme degrees of debility (éxpecially in old subjects), and cardiac disease, contraindicted the bath; but the principal of the method should be carried out, if not by this then by other measures, and it should not be suffered to interfere with the dietetic management of the case.

Dr. J. S. Bristowe began a short critical paper by expressing the opinion that the statistical method in medical inquiry was never a trustworthy basis on which to rest our judgment. No doubt there were strong *a priori* arguments in favor of the cold-bath treatment, since pyrexia was in itself injurious; patients treated with cold baths, moreover, did seem to derive immediate benefit. But he questioned whether this was not transient, and too dearly purchased at the risk in inflammations of internal organs, which were largely due, under ordinary circumstances, to exposure of the surface to cold. It was necessary to weigh all the facts before accepting the results afforded by a consideration of statistics. From his own observation, he had never felt perfectly satisfied that the benefit to the patient was real, or tended to shorten his illness. Two cases which occurred in his wards at about the same time had made a great impression on his mind. The first patient was a young man, who had a severe attack, with a temperature of 105° Fahr. in the third week; the patient was apparently benefited by a cold bath, but somewhat suddenly died soon afterwards; and, at the necropsy, the lungs were very small, and slate-colored, and in a state of almost complete collapse. He had never before seen a condition quite like this; but, shortly afterwards, he saw a second case, in which the lungs were in exactly the same condition; this case had also been treated with the cold bath. He would be glad to hear whether others who had used the bath had met with congestion and collapse of lungs and congestion and hæmorrhage from the bowels more frequently than formerly. The use of the cold-bath treatment had been to a great extent abandoned at St. Thomas', and also, he believed, to a great extent, in other London hospitals. This would not have occurred had the results been really satisfactory.

Dr. Frederick Taylor contributed the results of the treatment of enteric fever by the application of cold as practized at Guy's Hospital. The method employed had been: (1) The bath at 70° or 75°; (2) sponging with ice-cold water; (3) the wet pack, with ice-cold water; (4) the application of ice-bags in the axillæ; (5) Leiter's coils of tubing for the continuous flow of water. As the cases were under different physicians, the treatment was not precisely the same in all instances; the majority were treated by the bath, but many cases had also sponging or other cold application, and in others the sponging or other method was alone used. The cases were considered together, because all these methods effected a decided reduction of temperature. As a rule, the temperature was taken every three hours, and the patient was bathed when the temperature was found to be 103° or more. In some cases, 104° was taken as the standard. In estimating the results of the treatment, the mortality, the complications, and sequelæ, including relapses, and the general effect upon the patient's immediate comfort, were considered. During the preceding ten years, 1874 to 1883, 440 cases of enteric fever had been treated at Guy's Hospital, of which 78 were fatal, giving a percentage of 17.7. The mortality varied from year to year, being low in 1874, 1875, and 1876, very high in 1879 and 1880, and about the average in 1882 and 1883. Of these cases, 100 were submitted to some kind of cooling treatment, by bath, cold sponging, or ice-pack; and of these 27 were fatal. This greatly increased mortality was partly explained by the cases treated by cooling measures including a much larger proportion of severe cases. The influence of the bath on the cause of death did not seem to be very striking, the proportion of cases in which perforation and peritonitis occurred being very nearly the same in those treated by cold as in the total number of cases; but the proportion of deaths by hæmorrhage was somewhat greater. Against the large mortality amongst the bathed cases, it was important to notice that many cases were submitted to these measures very late in the illness, and many were only partially treated. The mortality in 49 cases treated on or before the tenth day was 20.4 per cent.; in 50 cases treated after the tenth day it was 30 per cent.; in 30 cases treated on or before the seventh day it was 16.6 per cent.; while in 69 cases treated after the seventh day it was 28.9 per cent. Then, again, of the fatal cases, in four-fifths the treatment was begun after the seventh day. As to the frequency of the baths, only 9 cases had as many as ten baths; of these 2 died, and only 12 had as many as ten cold spongings, and three of these died. It was constantly observed that the effect of the bath was greater than that of sponging, and the relative mortality indicated the same. Of twenty-eight cases sponged, only six died, or 21.4 per cent.; of forty-five cases bathed, only nine died, or 20 per cent. Of these forty-five cases, the deaths occurred amongst those who had fewest baths; the eleven cases who had more than five baths all recovered. It was not found that the bath had any striking effect upon complications, with the one exception of hæmorrhage, as illustrated by the fatal case. Thirteen cases had hæmorrhage, but in the majority of these it was obviously unconnected with the use of the bath. The bath did not appear to aggravate bronchitis, or increase the tendency to relapses, or lead to other complications. The immediate effect of the bath was to lessen delirium, induce sleep, and generally improve the condition of the patient for the time. Dr. Taylor concluded that, though the bare figures did not show to the advantage of the bath, it was clear that, in proportion as the patients came early under treatment and were thoroughly treated, the results were better. After some general remarks on the use of the bath, Dr. Taylor recorded a case which happened at the Evelina Hospital, in which occurred the complication of pulmonary hæmorrhage, to which Dr. Coupland had drawn attention.

Antiseptic Inhalations.

Dr. Solomon C. Smith thus writes in the *Brit. Med. Jour.*, February 23, 1884: At the present day, when antiseptic inhalations in one form or another are frequently prescribed, and commonly used even without prescription, I think we ought to endeavor to arrive at some definite conclusion as to their mode of action, and as to the way in which they produce those beneficial effects which are commonly attributed to them.

The shortness of time makes it necessary to place some limit to the subject; I do not propose, therefore, to discuss the question whether or not these inhalations are beneficial. I think we shall, most of us, agree that, be their action what it may, we find that, while treated by an antiseptic atmosphere, patients often experience a considerable relief of cough. and often gain flesh and strength; so that we have come to understand that in certain cases these inhalations do good, and the question is, how do they do it?

The subject must also be limited by provisionally accepting the theory that many cases of bronchitis, especially those with bronchiectasis, become dangerous chiefly in consequence of septic processes resulting from the growth of bacteria in their dead expectorations, and that phthisis arises from the development within the living tissues of the lung of crowds of bacilli, which, by setting up tuberculosis, a process consisting partly of irritative overgrowth, and partly decay, lead to the destruction of the lung.

The term antiseptic, in fact, presupposes the existence of some such septic processes as we now know to be caused by bacterial growth. It has long been thought possible, by inhalations of creasote, to limit decomposition in the expectoration; but, now that the investigations of many observers have shown the constant presence of certain bacteria in phthisical disease, the hope is that not only may antiseptic inhalations control septic processes in dead secretions, but that they may be destructive to those micro-organisms which are at the root of tubercular disease in living structures.

I inquire then, how do they act? What effect can an atmosphere charged to the extent recommended, have upon these living micro-organisms? Can a respirator keep them out? If not, can any vapor which is fit for respiration destroy them? If not, can it in any other way influence their growth, or check their development, so as to prevent their ill effects?

The first of these three questions we must answer at once in the negative. Any one who takes the trouble to master the details necessary for the successful conduct of experiments on sterile solutions, will see at once the impossibility of keeping bacterial germs out of the body in any form of respirator which it is practically possible to wear; and surely we have no right to believe that the bacilli of tuberculosis are any easier to intercept than the bacteria of decomposition. If we allow that they exist, and that they cause disease, we must admit the almost universal distribution of these infective particles. Every day we must have in our midst within these isles, constantly warring against us, a great army of 150,000 sufferers from this one disease, consumption, scattering amongst us right and left its germs, which, although harmless to the strong, are a perpetual menace, hovering about us ready to invade and breed in our enfeebled tissues, whenever, from disease or trouble, or unhealthy surroundings, our vitality is impaired; the enormous number of centres of infection explaining, as the occurrence of apparently isolated cases of phthisis proves, the wide distribution of the infective particles, and making us despair of success in keeping them out of the body. Can we then kill them if they gain access?

To kill bacteria is one thing, to kill germs is quite another. It has been proved that they can stand a short boiling, that they can be floated in air-bubbles through strong vitriol, that they can be washed with carbolic solution of any strength short of 5 per cent., without being killed, or losing their power of self-multiplication. Is it likely, then, that any vapor which could possibly be inhaled would be capable of destroying organisms which are so retentive of their vitality? I think it is quite obvious that all evidence shows that it is impossible, either to keep germs out of the body, or by antiseptics to kill them. What else, then, can inhalations do?

Several years ago, Professor Tyndall made a discovery which has an important bearing on this subject. While he was performing a series of experiments on the living matter in the atmosphere, it became necessary very frequently to prepare sterile solutions, and he was much troubled by the prolonged boiling which was necessary to destroy with any certainty their contained vitality.

But he found that if, instead of giving his solutions one long boil, he heated them several times for quite a short period, leaving them at the ordinary temperature in the intervals, he could quite readily devitalize them. This method he described as sterilization by discontinuous heating. He discovered, in fact, that, however hard and resisting the germ may be, there is, in the life-history of every bacterium, a period when it is very soft, tender, and easily destroyed; and that, although he could not touch the germs themselves, he could let them hatch, and, by repeated slight heatings, kill their offspring as they came out, while they were too young to produce a fresh generation; and thus he was able, without ever reaching the point of ebullition, completely to devitalize the fluids which he had found most resisting, even to very prolonged boiling. The recognition of this difference between germs and bacteria, as regards the action of destructive agents, explains many things otherwise difficult of comprehension, and enables one to understand how organic substances can often be protected from decomposition by the addition of very minute quantities of antiseptics, in proportions quite too small to be in any way considered germicidal.

The *modus operandi* is probably in all cases the same: the germ is allowed to hatch, the young is killed by an antiseptic far too weak to touch its parent, and thus the race dies out. Now, it seems to me that this is the explanation of the action of antiseptic inhalations. The materials which have been found most useful are not mere gases which intermingle with the inspired air and then pass out again with it, but are vapors, gaseous forms of soluble bodies, which are deposited wherever their penetrating vapor comes into contact with water.

On every moist bronchial tube, on the walls of every cavity, and even in every congested spot in the lung, the inhaled carbolic vapour condenses and carbolizes the tissues; and we are, I think, forced to believe that the benefits derived from the use of antiseptic inhalations are due to this infiltration of the lungs with antiseptic material, rather than to any action upon the floating germs.

It must, however, be granted at once that this impregnation of the tissues never goes to any great extent, and the question arises whether so mild a dose can have any effect in preventing bacterial growth. There is plenty of evidence to show that antiseptic inhalations diminish the irritating qualities of the expectoration, and lessen the number of bacteria in it; but there is no proof at all that it can be rendered entirely free from bacteria by any amount of antiseptic vapour; in fact, all evidence goes the other way.

Now, it has often been assumed that, if we cannot stop the growth of micro-organisms in fluids lying in the tubes and cavities, we certainly must not expect to check their development when embedded in the substance of the lung.

But the cases are different; the one is a question of dead matter, the other of living tissue. Decomposition of expectoration obeys the same laws as experiments in test-tubes; but the growth of bacilli in the living substance of the lung is resisted by the vitality of the tissues themselves. Life is the great antiseptic.

There are few points in which the difference between things living and things dead is more markedly shown than in the power live bodies possess of resisting, by virtue of their own vitality, the growth within themselves of those lower organic forms which, in dead tissues, readily take root and grow, and, by their development, rapidly reduce the lifeless elements to their lowest chemical affinities. For scores of years man's body resists decay, and then, when life departs, he rapidly swarms with myriads of bacteria; not that there is any chemical change making his body more suitable food for them, but because they are able at last to take possession, now that the resisting power of his vitality has departed.

As it is with the germs of decomposition, so it is with those of tuberculosis. When they attack the lung, they do not usually at first affect those parts which are most actively performing their functions; the very parts into which they are most freely carried by the air are least susceptible to their attacks; their active vitality is their protection; but, in the apices and parts injured by previous inflammations, they settle and breed disease. And, even when phthisis is well established, and when the air in the chest must be crowded with its germs, large portions of the lung remain for long untouched; showing, on the one hand, how great is the resistance to the disease inherent in the tissues themselves, and, on the other, giving a rough measure of the amount of help required from treatment. For, if the difference between a soil fit and one unfit for bacterial growth is to be measured, for example, by the difference between the functional activity and resulting vital resistance of an upper and a lower lobe of the lung, surely it is not unreasonable to hope that, by impregnating the pulmonary tissues with antiseptic material, which, we know, renders them less fitted for the cultivation of bacilli, we may be able to make up the lacking resistance, and so prevent the access of disease.

When we send a patient to Davos, to an atmosphere so rare that he has constantly to use the whole of his lung to get sufficient breath, instead of breathing with a portion only, as we mostly do, we really give to the whole lung the same functional activity, the same resisting power, which formerly belonged only to certain parts of it, and we know that the disease is often checked.

If, then, the tissues are so nearly able to hold their own, it ought to be possible, by adding the resistance of any antiseptic, to stop the progress of a disease which, according to the premises of our argument, is due to bacterial growth. This may all be mere theorizing, but it leads to some very practical points.

First, the material used ought to be capable of absorption by moist surfaces; it should be a vapor, not a gas; and a dry vapor, not an atomized solution.

Second, as no attempt to filter or sterilize the air is required, all complex forms of respirator may be discarded. The freest possible access of air should be allowed, the vapor being breathed with it as constantly as possible; so that the simplest and most open respirator is often the best, the mere diffusion of the vapor in the room sometimes being sufficient.

Thirdly, we must combine with the treatment by inhalation, all medicinal, dietetic, and hygienic measures which tend to improve the general condition of the patient, and thus increase his vital resistance.

It is worth bearing in mind that the view of the matter, which I have so imperfectly brought before your notice, shows the harmony and unity of purpose which exists among the various means which we make use of in the treatment of consumption.

If we accept the germ-theory of the origin of tuberculosis, all treatment, both local and general alike, must aim at preventing the growth of certain bacteria in the body; the struggle is between one great life and myriads of small ones; and while all general treatment tries, by providing healthy work, good food, and pure air, and by attention to all secretions, to improve man's condition, and make him so suitable to his surroundings, that he, being the fittest, shall survive; local treatment, on the other hand, endeavors to impregnate the lungs with substances so inimical to the development of microscopic forms of life, that the parasite, planted in a soil unsuited for it, beaten in the struggle, shall cease to grow.

Some Points in the Diagnosis of Bright's Disease.

Dr. Robert T. Edes writes as follows in the *Medical News*, February 23, 1884: The name of Bright's disease has been attached to so many and such varied cases, and has lately been so broadened by high authorities, that a little inquiry into the correctness of this very general application is by no means undesirable. An excellent way to clear up one's ideas on the subject is for the student, or, still better, the practitioner, after he has become well indoctrinated into the pathological anatomy and symptoms as taught in the text-books, and after having made sundry excursions into the more speculative regions of "high tension" and "lithiasis," to consult the works of Dr. Richard Bright, when he will realize how much travelling in a circle has been done since they were published, and might be tempted to remark that what Dr. Bright didn't know about Bright's disease isn't worth knowing. This would, however, unless looked at simply as expressing his just admiration for the completeness of the discovery of that eminent physician, be a decided exaggeration. One of the points which he did not know, and which have since been found out, is the extreme frequency with which some symptoms of the affections going under this name are met with, as consequent to or associated with other diseases, where they assume entirely a secondary rôle in importance. What he did not know, and what no one yet knows, is the nature of the connection, so well understood to exist, between the cardiac, vascular, nervous and renal changes. At present the fact is so well known that many affections which would once have been characterized as independent diseases, such as apoplexy, dropsy. and cardiac disease, are very likely to depend upon, or to be associated with, a chronic nephritis which has before given no decided sign of its presence, that this condition is likely to be diagnosticated as an explanation of almost any sudden and serious set of symptoms, and the diagnosis may be sustained by the exhibition of what are supposed to be the pathognomonic features, viz., albumen and casts in the urine. Thus, a case of coma from opium-poisoning may present a very close resemblance, not only in the general condition, but in the state of the urine, to the sudden supervention of so-called uræmic symptoms.

The public is willing to accept Bright's disease as an explanation of almost anything obscure or unexpected. Any middle-aged or elderly man who has a pain in his back, a little difficulty in urinating, or, on the other hand, some incontinence of urine, or who notices in his chamber-pot on a cold morning a deposit, full, to him, of the direst forebodings, but known to the chemist as urates, can be made to believe that he has Bright's disease as easily as a broken-down anæmic woman, with a pain in her back, can be persuaded that she has "womb complaint."

The amount of truth in the two cases is enough to save the doctrine from contempt, and make it worth while to consider some of the mistakes in diagnosis somewhat seriously.

The desirability and importance of setting right the misapprehensions of a supposed sufferer are by no means small, from the amount of mental relief which is thus given, and the question loses none of its importance when considered in reference to the advertisement of "cures" and stories of wonderful recoveries.

It is not necessary, of course, to point out to physicians that neither pain in the back nor its absence, nor the irregularities in urination just mentioned, have any direct value in the diagnosis of Bright's disease, but there is reason to suppose that some other symptoms have attained a position of somewhat exaggerated importance in the minds even of the profession, and are considered more conclusive than experience shows them to be.

Albuminuria is now so well known to occur in a great variety of diseases, and even in some conditions not involving serious or permanent impairment of health, that it is to be looked on rather as a reason for further inquiry than as having by itself a very distinct meaning. Casts, especially of the hyaline variety, are not so generally known to belong very much in the same category. While the writer does not agree with Charcot in believing that casts may occur in a healthy urine, any more than a purulent sputum comes from a healthy bronchus, it is undoubtedly true that they are often found under circumstances where nothing more than a temporary disturbance of the renal circulation, or some local irritation, exists as a cause. The kidney may be more or less affected, but it is not so primarily, and the renal trouble is not the essential one. Thus, it is not unusual to find a case of valvular disease of the heart, or even of general failing health, connected with fatty degeneration of the heart and consequent feeble circulation, suspected of being Bright's disease from the presence of albumen and casts in the urine. The renal atrophy of old age is not infrequently attended with casts.

If we turn to another symptom, which is of the highest importance in diagnosis, which should always be inquired for, and if necessary, investigated by daily measurements, namely, polyuria, we find ourselves confronted with another set of difficulties. Of course, the practitioner will not allow himself to be led astray by the statement that the patient arises several times in the night to pass water. This is, to be sure, a suspicious circumstance; but it may arise from a local irritation, or even from simple nervousness. (In the latter case, by the way, the valerianate of zinc has been found a very effectual remedy.) A real polyuria may exist in surgical cases from irritation of the neck of the bladder, retention of urine, and back water in the kidneys, or from a renal calculus. This may be accompanied by albumen and a few transparent casts, and is dangerously near to the line which separates irritation from a chronic interstitial nephritis, which is not infrequently the final result. It is not, however, Bright's disease, and the distinction is a highly important one, since, if the local obstruction or cause of irritation can be removed by surgical measures, the renal atrophy is not necessarily progressive. This kind of polyuria is to be distinguished by the presence of the causative lesions, and especially by the presence of an excess of mucus, pus, and epithelial elements from the urinary passages.

A moderate polyuria of nervous origin, or, in other words, a mild diabetes insipidus, may, from the presence in small amount of the abnormal elements we have been considering, assume the appearance of chronic contracting kidney. The difficulties of diagnosis are by no means slight when we find ourselves in the presence of a case involving not only polyuria with albumen and casts, but nervous symptoms, such as are commonly found in this combination, as vomiting and headache. A cerebral tumor may present the greatest similarity of symptoms to a chronic nephritis, and we may have not only the phenomena just mentioned, but, in addition, others which are more or less common in the two diseases. These are optic neuritis (although this generally presents points of difference, as it may be associated either with intercranial pressure or with arterial degeneration and retinitis) and also high arterial tension. This latter condition, although often present in chronic nephritis of the interstitial form, is too frequently found in other affections to have the supreme importance recently attributed to it, either in reference to diagnosis, pathology, or treatment. The writer, several years ago, was demonstrating a sphygmograph to a little circle of medical friends, and just as the instrument was writing off a tracing which should have been highly characteristic of Bright's disease, or chronic interstitial nephritis, on the wrist of a gentleman about sixty years of age, another asked, "what is this high-tension pulse they are talking about now?" The question was evaded as well as possible, but the subsequent career of the patient, if so he could be called, as well as that of another member who gave a similar tracing, was watched with much interest. The first died about three years afterward, but, as both the symptoms and the autopsy showed in the most conclusive way, of cirrhosis, not of the kidney, but of the liver. The second is still, at the age of seventy or thereabout, actively practising his profession.

The symptoms which are most characteristic in each of the affections mentioned above, which are to be specially sought in any case of doubt, are in cerebral tumors, *localized* headache, paralytic conditions of limited groups of muscles or spasm of corresponding groups, and the etiology, which is likely to be syphilitic. For the nephritis, we have the cardiac hypertrophy and the dropsy, usually slight. It is, however, but rarely that the two diseases will approach so closely that the analysis of the urine affords no assistance in making the distinction.

Migraine may be closely associated with polyuria, albumen, and casts, and then certainly makes about as perplexing a problem as can well be met with; one which it is probable can only be solved by time, and even then not so conclusively as to leave the physician and patient altogether free from unpleasant doubts.

It is, of course, open for any one to say that such a case is only in the early stage of a chronic form, and it would be almost impossible to disprove such an assertion. The writer has had under observation for some years a lady who has for a long time been subject to severe headaches, with vomiting. She has had constantly a small amount of albumen and a few casts in the urine, which is rather abundant and of low specific gravity. The sphygmograph shows somewhat high tension. This looks like a pretty clear case of progressive interstitial nephritis, but although the headaches are perhaps more severe, in the intervals the patient is able to be out and about. At one time she greatly improved under a milk diet, and there has been no appearance of the more characteristic symptoms, such as cardiac hypertrophy or dropsy. Time alone in such a case can assure us that chronic interstitial nephritis will not become more manifest, and go on to the usual termination.

Some of these obscurities in diagnosis may help to explain many of the "cures" of Bright's disease. While the writer would not be understood to deny the possibility of an arrest of a chronic nephritis of either form, which may amount to a cure with a more or less damaged but still sufficient kidney, yet the ordinary professional and lay opinion as to the extreme rarity of such an occurrence, is undoubtedly correct; and few of the cases where a complete recovery from chronic Bright's disease is said to have taken place, will bear a close scrutiny. Where the diagnosis is that of the ignoramus, or of the interested quack, it is not worth while to spend time in accounting for remarkable cures. The explanation is very simple. As has already been said, it does not require a specially credulous patient to accept such a diagnosis, and the marvellous feats of therapeutics are very easy if the intending performer has the opportunity to make the diagnosis to suit himself, and retain it uncontradicted. In other cases, however, I believe that mistakes have arisen from, firstly, the very distinctly intermittent way in which many cases of Bright's disease pursue their course, or perhaps to the occurrence of exacerbations which disappear under the influence of rest, warmth, and appropriate treatment, and give place to decided improvement, which may be taken for recovery. I have seen a man with parenchymatous nephritis, marked cerebral symptoms, and great dropsy, leave the hospital well enough to to make a voyage to sea before the mast. and return with the same symptoms, of which, although I have lost sight of him, I have no doubt he finally died. Again, an attack of acute nephritis does not always begin with pain in the back, fever, and exceedingly scanty urine, which at once signify its character; and if appearing, as it not very rarely does, simply as a rapidly-increasing dropsy without marked pyrexia, cerebral phenomena, or in fact any of the classical symptoms to announce its true character, it is very likely to be taken for the development of a previously latent chronic disease. If this suspicion is taken as a certainty, and the patient then recovers, the case passes for one of a wonderful cure of Bright's disease, instead of what it really is, the usual and natural result of acute nephritis. Even in the nephritis of scarlet fever some of the signs, especially casts, may hold on so long as to deceive one into thinking of chronic rather than of acute disease.

In some one of these ways nearly every one of the reported cases of "cure" can be accounted for, without either doing great violence to our only too well-founded pathological ideas or impugning the good faith of lay narrators.

Typhoid Fever.

Dr. E. J. KEMPF thus summarizes his treatment in the *Indiana Med. Jour.*, February 25, 1884:

1. Always put the patient to bed, no matter how well the patient may consider himself. The recumbent posture is the best and the safest. Change the position of the patient from time to time to prevent hypostatic congestion. Order the nurse to employ a bed-pan, so as to spare the patient's strength as much as possible.

2. Treat the symptoms as they appear in the various cases. Do not rely on any special plan of treatment. Cold water and quinine are the best and safest antipyretics, if the fever-rate is too high. Opium for the bowels, tincture digitalis for the heart, turpentine for hemorrhages, and so forth, as the different cases may indicate.

3. Skillful nursing. The patient has a long fight to pull through; therefore, husband his resources. The room should be pleasant, dry, clean, free from offensive odors, well-ventilated, and above all quiet, so that the patient can sleep as much as possible. The temperature should be taken regularly, and all the wants of the patient should be promptly attended to.

4. Regimen. Diet is the main thing; liquid food, nutritious and concentrated. A variety is called for, which, as well as the quantity, must vary with every case. Give small quantities, often repeated. I give the foods in the order of their value: Milk, whisky, brandy (apple, peach, French, etc.,) wine (claret, which I think is *the* wine for typhoid fever), beer (common lager, ale), egg-nog, wine-whey, beef tea, chicken tea, buttermilk, and the various foods properly prepared; Horlick's, etc.

5. Cold water. My experience, based on the treating of about sixty cases, leads me to believe that cold water, both externally and internally, is our best remedy in the treatment of typhoid fever, combined, of course, with diet and nursing and the recumbent posture. Use it in the form of baths, even if the fever-rate is not high, and give it internally by the tablespoonful, or in the form of acidulated drinks, lemonade, or dilute muriatic acid, or Horsford's acid phosphate.

A New Method of Treating Chronic Rheumatism by Electricity.

The *New York Med. Record*, December 22, 1883, says: Prof. SEELIGMULLER claims to have met with remarkable success in the treatment of chronic articular rheumatism by electricity. He uses a metallic brush electrode with stiff wires, which he connects with the negative pole, the positive pole being attached to a flat sponge electrode. The latter is dampened and placed on the limb near the offending articulation, then the metallic brush is applied over different parts of the joint, being held in contact with the integument in each place for the space of from one to ten seconds. The application is very painful, but the Professor remarks that the patients soon grow used to it. After a sitting, the skin is covered all over with little dots, looking as if the Baunscheid instrument had been employed. The mode of action the author does not explain, but thinks it cannot be entirely owing to the counter-irritation, for he has used other equally severe cutaneous irritants without meeting with anything near the success obtained by this method. One patient, who had been treated for eight years for chronic rheumatism by all sorts of methods, was able, after the first application of electricity, to raise his arm, which had been powerless for six months; after the third application all the movements were normal. Another man was unable to move either his wrist or his shoulder, owing to rheumatism, and after five sittings was discharged as cured, and was able to resume his work as a stone-mason.—*Deutsche Medicinische Wochenschrift*, October 17, 1883.

Virulent Case of Scarlatina.

Dr. JAMES J. MARSH reports this case in the *Brit. Med. Jour.*, Feb. 23, 1884:

On the afternoon of January 13th, I was called to see a boy, aged 4½ years, who was in a convulsion. On arriving, I made every inquiry as to the previous history, but could gain nothing definite. The boy had been apparently quite healthy before he was seized with this convulsion; and I ordered the usual restoratives, such as a bath, mustard poultice, and injection. After about half an hour, he had so far recovered as to enable me to leave him. I at once sent down a mixture containing bromide of potassium, and called again at 9 p. m., when I was informed that he had had three more convulsions. As scarlatina was very prevalent in the district at the time, I warned the parents, gave fresh instructions, and left. About 7 a. m. on the 14th, I was again called to see him, and on entering was told that, from the time I was first called to see him up to midnight, he had had no fewer than nine convulsions in all, and he was still in the ninth when I saw him in the morning. I ordered him another bath containing mustard, and, in about ten minutes after he was taken out, he was covered with scarlatina rash. He died, however, at a quarter past twelve at noon, never having come round from the convulsion. I think that this is a case worthy of report, owing to the large number of attacks of convulsions, and especially the length of the last, which continued for twelve hours.

The Diagnosis Between Belladonna Rash and Scarlatina.

Dr. SELDEN B. SPERRY, of Delafield, Wisconsin, sends to the *Med. Record* the history of a case illustrating, as he believes, two important points in the differential diagnosis between scarlatina and belladonna rash. He was called to see a girl, aged three years, who had for two days suffered with a sore throat. He examined her, found no patches, and the child was feeling well. He prescribed tincture of belladonna in one-minim doses every hour. Dr. Sperry writes: "She went to bed and asleep at her usual bedtime. About eight o'clock the father came after me, saying the child had broken out with scarlet fever. I went to see her immediately, and found her sitting up, crying, with intense *irritation* of the *skin.* Her face was as red as in a thoroughly developed case of scarlatina. Her body was red, but not so much as her face, and more than the extremities. The eruption was decidedly *punctated*, a point I was careful to look into, because Bartholow states that it differs in that respect from the rash of scarlatina. She had had no chill. Temperature normal, pulse 65. Her throat was worse than ever. I ordered her washed with a weak solution of carbolic acid, and gave her a teaspoonful of syrup of Dover's, and she was all right in the morning. She had taken four doses, and the eruption did not appear until she was in bed."

Arsenic in Relapsing Fever.

The *Med. News*, February 16, 1884, tells us that BOGOLOMOW reports four cases of relapsing fever treated with Fowler's solution. The first was that of a man, æt. 36. Gtt. iv of Fowler's solution were injected under the skin. On the following day, the temperature was 92.5°, and no micro-organisms could be found.

On the twelfth day after the beginning of the attack, the temperature rose suddenly to 104.8°, and large numbers of micro-organisms were found in the blood. The solution was again injected, and with the same result as before. The effect on two of the other three patients was equally good. The temperature and pulse rates were promptly reduced, and the micro-organisms disappeared from the blood.—*Centralbl. für klin. Med.*, December 29, 1883.

VI. OBSTETRICS, DISEASES OF WOMEN AND CHILDREN.

Corrosive Sublimate as a Disinfectant in Midwifery.

We take the following from the *Dublin Jour. Med. Sci.*, February, 1884: Antiseptic midwifery is no longer an idea, but a fact. The practical application of Listerian principles, however imperfectly, in lying-in hospitals, abroad and at home, has been attended by such a surprising and unlooked-for success, that the mortality of childbed in the best managed of these now approximates closely to that of private practice. And this, too, despite the special dangers and difficulties which are inseparable from institutions largely used for purposes of clinical study. Hence the question no longer is one of the possibility, but of the improvement of antiseptic agents and procedures, as applied to the minimizing the risks of childbirth. To this question the papers published in the September numbers of the *Centralblatt*, and that of Kehrer, read in the Obstetric Section of last autumn's Congress of German Naturalists and Physicians, at Freiburg, form important contributions.

It becomes daily more important for us to know the most efficient disinfectant during labor and childbed, now that, as Toporski observes, the idea of infection has permeated into lay circles, and that the medical man or the nurse is so commonly held accountable for the outbreak of a puerperal fever. But, in truth, our antisepsis is as yet imperfect, and must be doubly so until our midwives are intelligently taught to understand and practice its principles.

Koch ("Mittheilungen aus dem Kaiserlichen Gesundheitsamte," Bd. I., p. 234, "Ueber Disinfektion"), first published his conclusions as to the relative values of different disinfectants in the year 1881. He experimented on anthrax spores and bacilli. The spores, he found, could be destroyed by seven days' immersion in a 3 per cent., or a two days' immersion in a 5 per cent., solution of carbolic acid. A 10 per cent. solution would probably be needed to destroy the spores immediately. A one per cent. solution, on the other hand, sufficed to kill the mature bacilli within a few minutes. Much more marked were the powers of corrosive sublimate solutions. Even a .1 per cent. solution destroyed the spores in a few minutes. Koch concluded from his researches that the use even of very weak solutions of corrosive sublimate formed the most powerful of all known measures for disinfection.

Koch's conclusions were quickly subjected to the tests of clinical experience in most of the departments of general surgery, and their practical verification led naturally to the trial of corrosive sublimate solutions as a disinfectant for obstetric purposes. Some of the results of these trials we have in the papers before us, the first of which—that of Toporski—comes from the Breslau clinic, under the direction of Prof. Fritsch. The paper is based on a six months' experience of corrosive sublimate, used as follows:—A quantity of .1 per cent. solution is prepared and kept in large glass vessels, both in the labor and lying-in wards. Before examining any of the patients, all students and others are ordered to wash their hands and forearms with soap and nail-brushes in this solution, removing their coats and tucking up their shirt-sleeves. Before and after an examination the vagina is washed out with the same, or, in some cases, with a 05 per cent. solution. For this purpose glass irrigators are to be used, and, as metals are roughened and corroded by the solution, instruments are washed before use in a 5 per cent. solution of carbolic acid.

So far as very limited figures allow us to judge, the results of a six months' experience have proved encouraging. Toporski compares with them the results obtained by the use of carbolic acid solutions during the corresponding six months of the previous year, 1882. During these periods 120 patients were treated in the method described, and 129 by carbolic acid. One patient died from septicæmia during each six months, but Toporski claims that the death during the use of corrosive sublimate was clearly shown to have been due to the negligence of one of those who had examined the patient, in not having disinfected himself properly after contact with foul wounds. The average stay in the hospital of patients under the sublimate treatment amounted to about nine days; under the carbolic, to nearly 11.5 days. Only 7.5 per cent. of the former, as against 16.27 per cent. of the latter, suffered from forms of puerperal disease; and the sickness was also graver and of longer continuance where carbolic solutions were in use.

Toporski directs attention to the advantages which, in regard to cheapness, corrosive sublimate possesses over carbolic acid. He estimates that a .1 per cent. solution of the former is six times as cheap as a 3 per cent., and ten times as cheap as a 5 per cent. solution of carbolic acid. He denies that one solution is more dangerous to use than the other, necessary precautions being taken to keep both in safe places. His experience enables him warmly to recommend a trial of corrosive sublimate in other maternities.

Dr. Wiedow reports on the methods of using and the results obtained, in Hegar's clinic, by corrosive sublimate instead of carbolic acid solutions for nearly twelve months. "On an average, five students are called to examine each labor patient. It is understood that none of these have touched infectious matters for at least forty-eight hours previously, and that they have not worn the same clothing in infected places for eight days previously. When about to examine, they take off their coats and turn up their shirt-sleeves over the elbows. They then rub their hands with oil of turpentine, and wash them in soap and water, cleansing the nails with a knife. The hands are then again washed in a strong solution of permanganate of potash with soap, cleaned and dipped for a moment into a .1 per cent. solution of corrosive sublimate. The examination is then made with the fingers moistened with carbolic oil. Before and after each examination the vagina is washed out with a sublimate solution (1:5000). The students are not allowed to examine except in the presence of an assistant physician."

Out of 144 patients thus treated between July, 1882, and June, 1883, two died;

one directly from hæmorrhage, due to central placenta prævia, and the other from chronic pelvic caries, having fistulous communications with the peritoneal cavity. There were only six cases of disease during the puerperal period—two of "thrombosis and embolism," two of vesical catarrh, and two of pneumonia. These results compare favorably with those given for the four previous years, during which carbolic acid was used as the disinfectant.

Kehrer introduced this disinfectant into the Heidelberg clinic in April, 1882. At first he employed a 1 : 2000 solution; more recently one of 1 : 4000. He makes the solution by dissolving five parts by weight of the corrosive sublimate in 200 of water. Ten cubic centimetres of this strong solution are then added to a litre of water. The vaginal mucus, he thinks, forms a nidus for the bacteria, which may readily be introduced with it into the cervical canal by the examination made during the first stage of labor. He therefore, advises the preliminary removal of this mucus by injections, combined with the use of the fingers, or of cotton-wool soaked in the solution and grasped in a forceps. Injections are also made after removal of the placenta, and twice daily during childbed so long as the lochia persist.

Two hundred and twenty-one patients have been treated by him in this way. In only one-third of these was there any rise of temperature during childbed, while in previous years, under the carbolic solutions, more than three-fourths of the patients suffered from some amount of fever. Eight of the 221 patients suffered from œdema and puerperal ulcers of the vagina; six from para- and peri. metritis; one, who had suffered from prolapse of the uterus during pregnancy, from metrophlebitis and metastatic pneumonia, with recovery; and one from a fatal sepsis caused by the retention, for twenty-four hours, of a dead and decomposed fœtus in the uterus. Yet the local affections were fewer and slighter than under the use of carbolic solutions.

Among the other results of this practice Kehrer notes the shriveling effect the sublimate injections have when freqaently used on the skin and mucous membranes. In four of his patients he observed a slight urticaria spreading from the genitals, which were dressed with wool soaked in the solution, over the trunk and extremities. The eruptions disappeared, however, in each case, three or four days after the treatment was discontinued. In one puerpera, and in three gynæcological patients (who had previously been under mercurial treatment), a mild stomatitis had supervened. He had never seen mercurial symptoms in the case of patients who had not previously been taking mercury in some form.

In the discussion on Kehrer's paper, Hegar expressed his opinion that no better antiseptic than corrosive sublimate could be required. Schatz (Rostock) had seen one case of salivation resulting from the treatment in a woman with a very narrow vulva, which had probably prevented the escape of some of the fluid. Kaltenbach (Giessen) used solutions of a strength 1:1000 for washing the hands; 1:2000 for vaginal injections; and 1:3000 for irrigations in operative cases, with the best results. He also employed it for disinfecting sponges. Dr. P. Bröse reports on the results of a six months' trial of corrosive sublimate solutions in Schroeder's Berlin clinic. The methods of using them, and the precautions as to students introducing septic matter among the patients, were here very like those at Freiburg. Vaginal injections were made with a .2 per cent. solution, and were well borne by patients, those only who were suffering from granular vaginitis complaining of the smarting which they caused. Generally much less complaint was made than had been the case when 5 per cent., or even 3 per cent., solutions of carbolic acid had been used. In one case of induction of premature labor, the vagina was washed out twice daily for seventeen days, at first with .2 per cent., and afterwards with .1 per cent. solutions, the only complaint of smarting being made towards the end of the time, when the vaginal epithelium had become shed in places.

The results obtained were better than those of any previous-like period in the Berlin maternity. Only 11 out of 330 patients suffered from puerperal diseases in any form, and one of these had been for a long time in labor under the care of a midwife before being admitted to hospital. Two of these patients died—*i. e.*, 6 per cent. of the entire number. One death followed prolonged labor in the case of a patient with a generally contracted pelvis, a difficult version being complicated by tetanus uteri. *Post-mortem* examination showed that the uterus had been considerably injured, and in one spot perforated. The second death was from septic peritonitis, following a forceps delivery in a first labor. The puerperal diseases observed were very mild in character, the patients leaving hospital from the thirteenth to the sixteenth day of childbed. That these results were remarkably good, is shown by the fact that among the 330 patients, placenta prævia occurred 4 times (once central), the forceps was needed 27, turning 19, and manual removal of the placenta 4 times. Among them also were two cases of induction of premature labor.

Adding together the reports from the Breslau, Freiburg, Heidelberg, and Berlin hospitals, we find that in all, 824 patients have been treated as described, with a total mortality from all causes of 6—*i. e.*, .72 per cent., or 1 in 137, and a total morbidity of 62—*i. e.*, 7.5 per cent., or 1 in every 13.3 cases. In the different maternities of Paris we hear also that corrosive sublimate has lately been adopted as the cheapest, most harmless, and most efficient disinfectant during labor. These facts cannot but justify the general introduction of corrosive sublimate into midwifery practice, and we hope soon to learn the results of its trial from many quarters in this country. Already, we are glad to learn, it has been introduced into the wards of the Rotunda Hospital by the present Master, Dr. Macan.

Ergot in Obstetric Practice.

The *Canada Lancet*, March, 1884, says: The place which ergot holds in obstetric practice at the present time is in marked contrast with the teaching and practice of a few years back. It is not long since ergot was given to the parturient woman in the most hap-hazard manner. Indeed, there is room for the belief that some fossils in the profession continue to use it in that way still. Of course it has long been known that ergot contained elements of danger both to mother and child. Still, it is but recently that the full gravity of these dangers has dawned upon the profession. More especially within the last year, this question has been studied and debated with the liveliest interest, with the result of modifying former opinions and practices in several essential points.

When ergot is administered at an earlier period than towards the close of the second stage, it is sought to hasten delivery by whipping up a lazy or tired-out uterus, to the exercise of greater contractile force. The most serious danger to be apprehended from such a practice is rupture of the uterus. The possibility of this untoward circumstance has long been known, but its occurrence was thought so rare that many obstetricians were willing to incur the risk. That this accident is not so very rare as generally supposed may be inferred from the fact that, at a meeting of the St. Louis Medical Society recently held, one gentleman testified that he had seen six such cases, and another that he had seen two, within a year, all attributed to ergot. Another and more frequent danger is the loss of the child. Not even every veteran obstetrician has witnessed a case of rupture of the uterus, but almost every practitioner has seen more than one child born dead, with darkened skin and swollen features, proclaiming louder than words the cause of death. Standing in the glare of the light of the present day, and looking back into the past, every practitioner of experience must be struck with dismay at the number of serious casualities observed in the path over which he has trodden. Untoward occurrences, then either held to be unaccountable, or attributable to other causes, are now unveiled, and shown to have been often the evil work of ergot. Of course, the uterus may rupture, and the child may be still-born, from other causes; but there is good ground for believing that most of these accidents, especially the former, result from the abuse of this drug. Violent and continued contraction, when it fails from any cause to expel the child, creates a liability to rupture, and prolonged pressure destroys the child by constricting the circulation.

Another and dangerous mishap sometimes following the administration of ergot, is irregular contraction; that is, the contractile force is not equal in all parts. When this happens, as it often does, however severe the maternal suffering may be, labor is just as likely to be retarded as advanced. This retardation may arise from one of two causes, or both at the same time. First, the contractile force exerted in certain zones may be rendered abortive by the inertia in other zones of the uterus; and, secondly, labor may be retarded, and even made impossible, by a change in the direction of the expulsive force.

Then there is the danger of a lacerated cervix and a ruptured perineum. The former accident has received a good deal of attention of late from gynecologists, owing to the serious dangers and suffering to which it gives rise. Many troubles of the cervix not formerly understood are now known to originate in laceration. Laceration, of course, may occur without the use of ergot; but common sense teaches us that it is more likely to occur in rapid and violent dilatation, such as may follow the administration of ergot. The same remarks are applicable to rupture of the perineum, an accident often fraught with life-long suffering to its victim. It is not here pretended that these are novel facts. On the contrary, they have been long known; but somehow, it is but recently that their full significance has come to be realized.

The question now arises, Has ergot any longer a place in midwifery practice? It certainly has; but its application is comparatively limited, and most carefully guarded. A few, indeed, have gone so far as to abolish it altogether, in all stages of labor, and use it only as a post-partum remedy. A large number hold that it ought not to be administered before the second stage of labor is passed, but that it may then be profitably given to facilitate the expulsion of the placenta, and to secure firm contraction. But the opinion more generally held, and the one practiced by many of those allowed to speak with the weight of authority is, that after the head is born, it is not only safe, but good practice, to administer a full dose of ergot. Indeed, it is now frequently the practice to administer ergot at this stage, or as soon after as possible. The object, of course, is to secure firm contraction, so as to expel the placenta, and prevent possible hemorrhage. Firm post-partum contraction is highly desirable in all cases. It empties the uterus of clots and remnants of membranes, which otherwise might remain and cause much serious trouble. It is now known that severe and continued after-pains are owing to imperfect contraction, and that the more firmly the uterus is contracted the less severe these are likely to be. For this reason also it is good practice to administer ergot towards the close of labor in all cases, experience having abundantly proven that the after-suffering is thereby greatly diminished. After a time, should the after-pains be severe, a good plan is to combine opium with the ergot. Indeed, so valuable is ergot at the close of labor, that, in many cases, to neglect to administer it is only less criminal than to do so at an earlier stage. In all cases where there is reason for believing the uterus has not properly contracted, ergot should be steadily given for some time, combined with citrate of potassium, adding bromide of sodium when nervous symptoms are present.

But the most important office ascribed to ergot is in relation to post-partum hemorrhage. We have already referred to its use in anticipation of the occurrence of that untoward and much-dreaded accident; and, doubtless, its power to prevent this occurrence is much greater than its power to control it when it has actually taken place. We think every experienced practitioner will bear us out in the statement that ergot is very uncertain in its action during the occurrence of hemorrhage.

Therefore the greater necessity for availing ourselves of the known power of this agent to prevent this accident. We may readily surmise causes for the comparative powerlessness of ergot to induce contraction after hemorrhage has taken place. The mental condition of the patient, the sudden prostration, and general loss of muscular tone, all render it improbable that the stomach is in a fit condition for speedy absorption, if at all. Under these circumstances the ergot should be administered hypodermically, for the well-known reason that agents act more speedily and surely when introduced in that way. For this purpose care should be taken to keep on hand a clean and pure article. The so-called liquid ergot, recently introduced, is a good and convenient form. Under all circumstances where it is important that action should be both speedy and certain, the hypodermic method should invariably be practiced.

But the question will be asked, What are we to do when the os is fully dilated, the membranes perhaps ruptured, and the pains either feeble or entirely absent? In such cases we may safely exercise the virtue of patience, in the absence of all alarming symptoms. It may be that a little rest is all that is needed, and for that purpose a dose of opium may be given—although, instead of giving rest, it may, perchance, set up active contraction, ending in speedy delivery. Large and repeated doses of quinine are both safe and effective in promoting uterine action, and should be resorted to when it is thought necessary to secure greater contractile force. Gentle external manipulation is also valuable in promoting contraction. But should all these means fail, and active interference be called for, the safest resort is the forceps, followed by ergot, administered hypodermically to insure speedy and firm contraction.

A Contribution to the Therapeutics of Puerperal Eclampsia.

Dr. I. **Ferguson** thus writes in the *American Journal Obstetrics*, February, 1884:

It is not my intention to discuss the pathology of this disease, nor yet to go into details regarding its treatment. I wish to record two cases, one of which was fatal, while the other recovered.

Mrs. D. sent for me at five o'clock A. M. When I arrived at the house, I found her in labor, the os rigid and but slightly dilated. The feet and hands were swollen, the eyelids puffy; there was severe headache, and some nausea. I waited with her for about half an hour, when she had a convulsion. I gave her chloral hydrate gr. xv. every fifteen minutes until three doses were given, and after an hour another dose of fifteen grains.

Convulsions came on at short intervals, and were very severe. I then put her under chloroform, keeping up the action between the attacks, and administering freely when the first symptoms of a return appeared. Still this did not suffice. I kept the patient for some time steadily and fully under chloroform; and, while thoroughly anæsthetized, she had a convulsion. This convinced me that something more than chloral and chloroform were required. At this juncture I summoned Dr. H. H. Wright, Professor of the Practice of Medicine in the Toronto School of Medicine. He came about noon, and it was decided to give her a hypodermic injection of morphia. One-third of a grain was inserted into the arm. Dr. Wright remained with me for an hour, but owing to urgent engagements, had to leave. During the time that Dr. Wright was with me, she had one hard convulsion. After this they became much lighter and less frequent. The morphia had a decidedly good effect. At 3 P. M. the os was dilated to about the size of a fifty-cent piece, when I decided to use the forceps. In this I experienced more than usual difficulty. The child was delivered also with difficulty, as the pelvis was small. The labor over, the patient gained some apparent strength, and was sufficiently intelligent to answer me in whispers. I gave her some milk and water with brandy at short intervals. She soon became very restless, throwing the arms about and sighing, while the pulse grew weaker and weaker. I injected half a drachm of ether into the arm. Shortly after this she had another slight convulsion, from which she never rallied, but became more and more comatose till she expired. No urine was passed during my stay in the house, and there was none in the bladder, as tested by the catheter. The uterine contraction after delivery was not very good, for which, and to arrest bleeding as speedily as possible, hot water injections were employed. The pupils not being very much contracted by the morphia, the foot of the bedstead was raised some ten inches more, to increase the supply of blood to the brain. The child was still-born.

Such is the history and termination of the above case. I had not long to wait for the next.

Sent for one day in haste to attend a young woman in her first confinement, and being informed that she was acting strangely, I lost no time in reaching the house. On my arrival, I found she had just recovered from a convulsion, but was still drowsy. Shortly after my arrival, she passed a few ounces of bloody urine. The face, feet, and hands were swollen. I waited quietly for half an hour or so, when the patient vomited with considerable straining. A little later there was a violent convulsion. This time I was determined not to trust to anæsthetics and sedatives alone; and fearing that purgatives would prove too slow, I resorted to the hot pack. This was applied in the following simple manner: A cotton sheet was folded and spead upon the floor; upon this was spread an oil-cloth, and over this again was laid four folds of flannel wrung out of very hot water. The whole was then passed under the patient and pinned round her body, extending from the axillæ to the great trochanters. It was not long till she was in a profuse perspiration. She became exceedingly thirsty. To allay this, she was ordered water as hot as she could drink it. In this way she continued sweating and drinking; the water taken in of course being pure, while the perspiration was loaded with impurities. After the application of the hot pack, which was changed from time to time to keep up its action, she had only one slight convulsion. One-quarter of a grain of morphia was then given hypodermically. The labor progressed well. The forceps were applied as soon as practicable, and the woman made a good recovery. In this case both mother and child were saved.

The outlook at the beginning was just as bad as in the first case. The convulsions were as violent and at as short intervals, the headache was intense, there was vomiting, the bowels were constipated as compared with the first, where they were relaxed, and both were primiparæ. In the first case the skin was dry, whereas in the second speedy, effectual, and continued diaphoresis was secured. I do not know how things would have been under some other line of treatment, but I know how they were under the method adopted. We all know how speedily soothing a warm bath is to a convulsed child, and a hot application, as just described, cannot fail to be so in the adult. In more than one case of acute nephritis have I obtained good results from the hot pack. This was the only case in which I have used it in the nephritis of pregnancy; but should another occur in my hands, I would not hesitate to employ it, and, along with other means, should expect it to do me yeoman service, in an hour when we are thankful for anything that can strengthen our hands.

Repeated Pregnancy in a Uterus Bicornis.

DR. S. TELLER thus writes in the *Am. Jour. Obst.*, February, 1884: I attended Mrs. F. in confinement for the first time in the latter part of 1878. At my first examination, I found a shoulder presentation, a fully-dilated cervix, and the liquor amnii evacuated. The child was turned and extracted, and both mother and child did well. I afterwards got the following history: Mrs. F. was then thirty-five years old, and this was her seventh confinement. Four children were born in head presentations without any trouble, except that in the second confinement a part of the placenta was left behind, and had to be removed by a physician after severe flooding, and she had afterwards some acute trouble. The fifth child was a transverse presentation, the child dying during delivery. She does not know the position of the child at the sixth confinement, as she was delivered under chloroform. The seventh confinement I have described above. On April 31st, 1881, I was called again to deliver her, and diagnosed, on external examination, twin-pregnancy, one child lying in the vertical, the other in the transverse diameter. On vaginal examination, I found the os dilated to a diameter of about one inch, head presenting. Without much trouble, the child was delivered, and the cord tied. On palpation over the abdomen, I found the second child in transverse position, the head to the left, the extremities to the right. On passing my hand through the vagina and the dilated os into the uterus, I came upon a large empty cavity, which contained nothing but the placenta. Retracing my steps along the cord, I produced uterine contractions, by placing my hand on the abdomen, and found my fingers entangled in a loose and unruptured sac of membranes. Repeating the maneuvre, it became clear that I had to the left a cavity which had expelled the child, and contained the placenta not yet detached. To the right of this cavity, and divided by what appeared to the touch quite a thick membrane, there was another cavity containing the other child in as yet unruptured membranes, and in a transverse position.

During this examination, the loose sac of membranes (quite distinct from the dividing membrane) became more distended, and puptured spontaneously, revealing a shoulder presentation. It was quite difficult to reach the legs of the fœtus, and I had to place the patient across the bed to finish the delivery by version and extraction. The child was dead, and probably had been so for some hours. During the delivery of the second child, the other cavity remained uncontracted, while my hand entered it by mistake, in the attempt to reach the feet; but, after the removal of the second child, one strong pain set in and expelled two entirely separate placentæ, which were in no way connected; each with its cord inserted in the centre. The uterus contracted well. I made no further examination at that time, intending to do so after her getting-up. On May 30th, she called on me, and I found the following condition: The uterus well contracted; the cervix about one inch long; the os closed. On introducing a uterine sound, I observed that it entered the cavity of the uterus in the middle line for about one and a-half inches, and then turned to the right side. I now introduced a second sound, and, turning it to the left, both sounds could be felt over the symphysis, one a little to the right of the other. I then brought the handles of the sounds close together, and withdrew one slowly, and, still keeping both close together, one inch and a-half from the os externum, I distinctly felt this sound striking the other. I recently had a further opportunity of verifying the diagnosis. On November 8th, 1883, I was called again to deliver the lady. I made out, by external examination, a transverse position, head to the left, body to the right. The child was delivered by version, and did well. After expulsion of the child, the uterus contracted firmly, but there was on the left an appendix, or rather a part of the uterus itself, of the size of a duck's egg, which was soft, and did not appear to participate in the action of the rest of the organ. To ascertain the cause of this condition, which was unaccompanied by any flooding, I passed my entire hand into the cavity, and verified by bi-manual examination the existence of a cul-de-sac, which had not participated in this pregnancy. This cul-de-sac was undoubtedly the second horn of the uterus, which had in the last pregnancy contained one of the twin embryos.

Ether in Obstetrics.

Dr. Casey Albert Wood, thus writes in the *Canada Med. Record*, Jan'y, 1884: Until about a year ago it was my invariable rule to employ chloroform in midwifery, not only for the alleviation of pain during the first and second stages of labor, but also for the performance of any of the operations incident to obstetrics. Since that time I have considered it advisable to modify my practice in some respects and so substitute ether, and in this paper I propose shortly to give my reasons therefor, and to ask of members of this Society, whose larger experience warrants their speaking with authority, their opinions upon the subject.

The only apology I have to offer for the assumption that it is possible to come to any conclusions of value in a small number of cases—twenty-six in all—is that attendance upon cases of midwifery where it is necessary to employ anæsthetics, gives one ample opportunity to study their effects in each instance; for the moderately careful observer, who stays up half the night in the endeavor to relieve a parturient female, is likely to have sufficient chances of watching the progress of events and the extent to which they are influenced by the administration of remedies. In those cases where relief is called for in the first stage of labor, examples of which are most commonly found among primiparæ, where a slowly dilating or rigid os is represented by sharp pains, nervous excitability, inability to sleep, and after a time by exhaustion, I have usually been able to succeed in quieting the patient and obtaining rest by giving her a full dose of chloral; or, if that fail, by administering a few doses of morphia. After a few hours of quiet, dilatation proceeds more quickly, and by the time the effects of the opiate have passed away, the labor has progressed to the second stage. In the beginning of October, however, I had a patient who refused to exhibit this satisfactory phase of affairs. She was about to be confined of her second child; had been delivered of her first by the use of forceps after a prolonged labor, and was in great dread of a second ordeal. In addition to her nervousness, the membranes ruptured after the os had dilated to the extent of a ten-cent piece, revealing an occipito-posterior presentation. The pains were not very severe or very frequent, but they appeared to exhaust the patient, who insisted upon my giving her chloroform. I had a bottle of Squibbs' ether with me, and I proceeded to administer the anæsthetic in the usual intermittent way. I noticed, however, that the effect produced corresponded mainly to the *intervals* between the pains, and while it quieted her and gave her some sleep, it did not "take the edge" off the pains as chloroform had previously done in my hands. As the affair progressed she seemed to gain courage and strength, rotation was accomplished, and the second stage was passed without the necessity of instrumental aid. As I walked home that night I felt that in that particular instance it would have served my purpose better to haven given chloroform. A short time ago I attended a young woman, primipara, who had a long, tedious labor, and to whom I began the administration of ether when the head, presenting in the first position, had proceeded fairly into the second stage. She had been suffering from hemorrhoids for several days previously, and was tired out before labor began. I gave her Squibbs' ether during and for a moment before the advent of each pain for over two hours. At the end of that time I endeavored, with the aid of the nurse, to apply forceps, but, owing to the difficulty with which she was brought under the influence of the anæsthetic, I was obliged to send for my friend, Dr. Gaherty. With his aid she was safely delivered, and recovered rapidly and nicely from the ether and from the effects of the long labor. I questioned her closely, and she declared that she felt little or no pain from the time of my first administration of the anæsthetic until I determined to apply forceps. This case is a fair sample of my experience in ether administration during the second stage of labor. Where the pains are sufficiently severe, and the condition of the patient such as to warrant it, ether—good ether, I mean—seems to me to furnish all the satisfactory results, both as regards its present and remote effects, that chloroform does, provided you give it slightly in anticipation of the pains.

I have had a number of cases of severe hemorrhage following the administration of chloroform given to produce complete anæsthesia while the forceps were used. So much so has this been the case, in my experience, that I have always looked out for at least a smart temporary post-partum bleeding, and usually found it. As far as I can judge from the small number of cases where ether was given, I do not think such hemorrhage has been as frequent or as troublesome.

Last summer, however (and this is the only instance where I felt alarmed at the loss of blood following the administration of ether), I applied the forceps to and safely delivered, with the help of the nurse and mother of the patient, a multiparaof the lax-fibre variety, whose uterine fibres refused, during the whole labor, to respond to the stimulus of ergot and quinine.

In this case there was much anæmia, resulting from the large loss of blood following the relaxation of the uterus after a primary contraction which expelled the placenta. Two months ago I administered ether to a primapara, aged 41, nervous temperament, average-sized pelvis, first position of the head, after labor had lasted fourteen hours. There was early escape of the waters, and the head was obliged to dilate a rigid os. Opiates only partially relieved the condition, and when the os had dilated to the size of a half-dollar, I gave ether in sufficient amounts to relieve the pain, and assisted the dilatation with my index and middle fingers. As soon as possible I increased the amount of ether, and when she was fairly under its influence I applied the long forceps and delivered. In spite of my endeavors to avoid injuring a very rigid perineum, she suffered a laceration which extended quite to the margin of the anus. This I stitched up, and patient did well. In September last Dr. Gaherty assisted me in the application of forceps where a similar accident occurred. The patient was completely unconscious from ether for nearly an hour. She made a good recovery. With the assistance of Drs. Perrigo and Gaherty I applied Dubois' forceps, and delivered, of a stillborn child, a woman with a contracted pelvis. Here the pains were intense early in the case, and continued so until the delivery of the child. I administered ether early, and she inhaled a fair quantity until the termination of the labor. In each of these three cases the patient said she had but a faint recollection of suffering pain after the anæsthetic was presented to her, and I have no recollection of any difficulty connected with the administration of the anæsthetic.

During the early part of the year, in a case of mine where I had the assistance of Dr. Kennedy, the labor of a primipara, aged 27, was obstructed by a cyst of the right broad ligament.

The presence of the tumor was early made out, and as the pains were violent from the beginning, I gave ether in quantities necessary to relieve them. In this instance I have a distinct recollection of the action of the anæsthetic. I found that upon the early pains, which lacked the bearing down quality, and yet were severe, the ether did not act promptly or satisfactorily. To produce the required anodyne effects, I was obliged to anticipate the onset of each pain, and to continue it during the whole period. That is to say, relief was obtained only by the use of almost as much ether as was required later on, when the tumor was punctured and the labor terminated by forceps. The patient made a good recovery. Without multiplying the record of these cases, valuable only as bearing on the question at issue. I would recount the relative merits, *meâ sententiâ*, of chloroform and ether in obstetrics something as following: (1) Owing to the agreeable odor, early effects, and perfect safety of chloroform as an anodyne agent, it is, without the least doubt in my mind, the agent best suited to alleviate the pain and calm the nervous irritability incident to the first stage of labor. (2) This statement is generally true of the expulsive period, where complete abolition of pain is not the object of the administration. (3) When, however, complete anæsthesia is required, as we find it necessary during the delivery of the child, and for the performance of operations following or preceding delivery, then it seems to me that chloroform largely loses its character as the obstetrical anæsthetic *par excellence.*

If it be acknowledged that considerations of safety must give way, in general practice, to greater convenience of administration, etc., then, too, in the operations of midwifery, ether must supplant chloroform. If it can be shown that there is anything about the parturient woman which renders her less susceptible to danger during chloroform inhalation which does not equally apply to ether, then the force of this argument is much lessened. So far as I know, this peculiar immunity does not exist. We know that it is in the practice of midwifery that the use of anæsthetics is considered least dangerous. By a process of natural selection, as it were, we then have women in the prime of life generally free from disease, with all their nutritive functions in good order—they naturally form the best class of patients to which *any* anæsthetic could be given—and this aside from the theories commonly put forward to explain such immunity from accident, such as increased cardiac development, the physiological cerebral congestion guarding against syncope, brought about by the effects of the uterus to expel its contents, and so on.

Other considerations may serve to modify these conclusions in the minds of practitioners, and the first one is the inflammable nature of ether and its explosive quality when mixed with a certain percentage of atmospheric air. The kindling point of ethereal vapor, and of its dilutions with oxygen, is low, and when either of them comes in contact with flame an explosion is sure to follow. As the operations of the obstetrician occur frequently at night-time, this is a serious objection. The difficulty can be greatly overcome by a little care in preventing the near approach of flame to the inhaler or ether bottle by thorough ventilation of the room, and by the exclusive use of covered lights. A common lamp is a very crude safety lamp, but it is a great improvement upon such naked flames as a gas jet, wax candle, or other unprotected light. I have never had an accident from an ether explosion. I think the danger could be nullified by the use of a modified Davy lamp.

In my experience vomiting is of as frequent occurrence after the use of ether in midwifery as of chloroform, and I do not think it occurs very often in either case. I think it will be generally admitted that, in view of the danger from post-partum hemorrhage, the danger to the child and inherent danger to the mother, it would be more advisable to give ether, for its general anæsthetic effects for a long period, say an hour or longer, than to give chloroform for a corresponding period. Now it often happens that one is obliged to administer, in midwifery, an anæsthetic for a much longer time than was first anticipated, in which case it would be at least advisable to substitute ether for chloroform when a commencement had been made with the latter. I assisted, last May, the President of this Society to deliver a woman whose labor was complicated by a labial hæmatocele which had burst and caused considerable hemorrhage. In this instance I am sure that, remembering the length of time she was under ether—about an hour and a half—the ease with which she was kept under its influence, the confidence with which its administration was left for a large portion of the time to the nurse—all these made me feel that ether was the anæsthetic for that particular case. I have here to refer to the matter I have just spoken of—the confidence with which, in view of its greater safety, the administration of ether can be given over to the nurse, or to any one whom the exigencies of the case have left in possession of her faculties.

In country places this rule applies with greater force than it does to city practice; but it often happens that, even in the city, it is not convenient, desirable or necessary to call in a brother practitioner. In such cases, it seems to me that ether possesses considerable advantage over chloroform. Finally, in labors fatal to the mother, where an anæsthetic has been employed for any length of time—and I have as yet, fortunately, had no experience of such cases—it may be a relevant question to ask, would it not be a satisfaction to know that ether had been given, and not chloroform?

A Case of Retention of Placenta Succenturiata.

The *Chicago Med. Jour. and Examiner*, March, 1884, says: The following article, written by Dr. Haussmann, lecturer on gynæcology and obstetric at the University of Berlin, throws a light upon certain conditions in the confinement of women, which to my knowledge have been hitherto entirely ignored in this country. I remember distinctly a case of this kind where the physician had delivered the child, a placenta, and, as he thought, all of the fœtal membranes.

The woman, who had been anæmic for a number of years, died from hemorrhage, and the autopsy proved the presence of a placenta in the uterus, with a part of the fœtal membanes. The county physician laid the blame on the doctor for having torn the placenta, thus causing fatal hemorrhage. The latter being able to prove that he had delivered a whole placenta, denied the statement, and there was confusion on all sides.—*O. Stroinski*, M. D.

The presence of a second placenta in single births in the human female, which has to be regarded as retrogradation in the sense of Darwin, has been known for the last two centuries, and it has been observed either after spontaneous expulsion, or by hæmorrhages or by impregnation after delivery. At the time of the delivery its presence seems to have been detected only in rare cases, notwithstanding the fact that it is found in a certain number of all cases, and is very well characterized by the long duration and tardiness of the delivery of the child and of the placenta. The following case, which showed characteristic symptoms at the time of the delivery, proved to me the presence of a second placenta at a time before the first placenta was delivered, and it gave me the indications for the proper action.

Mrs. X. had normal pains at the regular time, and at a quarter to 5 o'clock in the morning a living boy weighing 3,000 grams was born. About ten minutes after the birth of the child I attempted to remove the placenta by friction and pressure through the abdominal walls, the uterus contracting but little and there being considerable hæmorrhage. This attempt failed, but by a second attack ten minutes later, the expression was easily performed. But in elevating the placenta, and in the attempt to remove the fœtal membranes which were yet enclosed in the genital organs, I noticed a rupture in those membranes. Entering the vagina, I found a resistant tumor on the fœtal membranes, and in entering the uterus the presence of a second placenta was detected, and which was adherent to the uterine walls. It was situated on the posterior wall of the uterus and adjacent to the os internum, and it was intimately connected with this wall and the fœtal membranes. In carefully separating this second placenta from the adherent wall, I removed the whole from the now regularly contracting uterus, the latter being washed out with a 2 per cent. solution of carbolic acid. The patient recovered in the normal time, and the lochiæ were of the regular amount. The first placenta was normally formed, except the cotyledons, which were somewhat flat. The second placenta had a tongue-like form, and it was about 9 cm. long on its lower margin; 2 cm. on its upper surface; 5 cm. broad, and its seat on the fœtal membranes was distinctly distinguished from that of the first placenta. The method of removing the placenta by expression through the abdominal walls has now been generally accepted, but I will here call the attention of physicians to the fact that this act is sometimes made impossible by the presence of a placenta succenturiata.

Temporary Blindness Following Child-birth.

In the *Obstetric Gazette*, January, 1884, Dr. E. C. Brush reports this case:

On December 17, 1883, at six o'clock a. m., Mrs. W., of this place, gave birth to a large female child, it being her fifth confinement. The labor was short and *very* easy, a few pains expelling the child and the placenta. There was no unusual hemorrhage, and the patient congratulated herself on feeling so well and upon having so trifling a labor.

At 4 p. m., same day, I visited her and found her feeling well, all doing nicely; but that night, at one o'clock, I was sent for and found her suffering with intense frontal headache, and also complete loss of sight. The latter she had discovered about an hour before my arrival. The room, to her, was dark, and she asked her husband "why he had taken the lamp away?" He replied that the lamp was on the mantel as usual, and she realized that she was blind.

I gave opiates to relieve the pain, and on inquiry and examination found everything as it should be, except the headache and blindness. Pulse 76 beats per minute; no fever; waiting until the medicine had somewhat relieved her suffering, I went home.

December 18th, 9 a. m. Headache entirely gone, patient feeling well in every way, but still blind.

7 p. m., same day. Patient has felt well all day; taken some nourishment; says she "thinks she can tell whether the lamp is in the room or not." No fever; pulse 100. This high rate of pulse I attributed to too much excitement, caused by visitors, and left orders for no one to enter the room but those needed.

December 19th, 9 a. m. Mrs. W., thinks she can distinguish the windows and sees shadows when any one passes between her and the light. Pulse 99, no fever.

6 p. m., same day. Sight slightly improved during the day. Pulse 96.

December 20th, 9 a. m. Patient slept well all night. Had an evacuation of the bowels without aid. Says she can "make out her friends, but their faces look like wax-work, and their eyes like bright dark beads." Pulse 100.

December 21st, 10 a. m. Can see much better, but when she shuts her eyes she sees all the colors of the rainbow, and last night when she looked under the covers at the baby, "it seemed to have a halo around its head."

December 22d. Sight still improving. Patient feels first-rate.

December 23d. Can see good-sized print, but at times has pain through the eyeballs.

Christmas she could see as well as ever, and in every respect was improving.

Mrs. W. is a well-formed, robust woman. She claims to have gone three weeks over time, and the last two months of her pregnancy was troubled with sore throat. The writer does not offer any theory, or try to explain this strange case. There was no flooding; hysteria she never had; there is no family history; no disease before or after pregnancy (except sore throat); no complication during the labor to account for or cause the trouble. The confinement and subsequent recovery was all any woman or physician could wish.

There was really nothing out of the usual order of things, except a few hours headache easily relieved, and the fact that she was entirely blind for about thirty-six hours, and for a few days partially so. The recovery of sight was very gradual, as can be seen from this report. Had an ophthalmoscopical examination been made, it might have revealed some cause, and it *might not.* This would have been done had it been practicable. The appearance of the eyes was as usual, and the pupils acted properly.

Some works on obstetrics mention cases of this kind following complications, such as flooding, severe labor, etc. Cazeaux knew of or mentions one case, and that followed flooding.

A Case of Arrested Fœtal Development.

Dr. Beaumont Small reported to the Medico-Chirurgical Society of Montreal (*Canada M. & S. Jour.*), a case of triple birth at seventh month of gestation. In two of the fœtuses development had been arrested at about fourth month.

The patient was a young woman of delicate health, who had always been anæmic and troubled with menorrhagia. During the first four months of married life the prolonged menstrual periods continued without change. She then became pregnant, her general condition improved, but she persisted in performing heavy household duties. During the early months of pregnancy there is no history of any condition likely to cause injury to the contents of the uterus. During the last month before delivery there were marked signs of irritability of the uterus. Slight disturbances, such as driving over a rough road and jumping easily from a buggy, were followed by pains and distress much more severe than the causes would lead one to expect. About a week before delivery, she fell upon her side, receiving a severe shock; active pains ensued, and continued until delivery. I was not able to find out if the membranes had been ruptured at the time of the injury. Upon my arrival, labor was well advanced, the os fully dilated and waters discharged. During examination, a loose body was detected projecting from the os, which I endeavored to recognize as an arm or leg. To my surprise, it became loose, and was easily withdrawn—proving to be fœtus No. 1, in a black, shrivelled, flattened state, differing very little from its present appearance. The flattening was due to compression between the head and pelvic walls. No placenta was attached. In a short time a well-nourished but lifeless fœtus of about seven months development was delivered: it had been dead for a day or two only. The placenta followed easily—there was no sign of its being a double organ, or of any attachment of the other fœtus. Shortly after, fœtus No. 3 was removed with its placenta attached. This placenta was elongated, and evidently fœtus No. 1 had been joined to it. Convalescence progressed favorably, and the patient regained her comparative good health. There is no instance of multiple births having occurred in her mother's family. The cause of this unusual condition, I think, can be traced to the impoverished physical condition of the patient. The burden proved too great for the enfeebled uterus—the single placenta proved the stronger, and attracted the greater share of nutriment—the other was corresponding weakened, and ultimately destroyed. Such instances of the power of toleration possessed by the uterus, are rare. At a recent meeting of the Obstetrical Society of London, a similar condition was reported in a twin birth. One other member only had met with the same in his practice.

Dr. Kennedy had never seen a similar case. He thought that pressure stopping the circulation was the cause of death of the specimens exhibited.

The Forceps in Breech Presentations.

The London *Med. Record*, January 15, 1884, tells us that Dr. Truzzi is strongly in favor of the use of forceps in breech presentations. He says that, in cases of impaction of the breech in the upper or middle parts of the pelvic cavity, when the prompt extraction of the fœtus is indicated, and while one of the hips is not yet rotated under the arch of the pubes, it is better to have recourse to the application of the forceps to the fœtal pelvis than trust to traction on the groins, which is insufficient if practised with the fingers, and dangerous with the blunt hook or fillet. The proposal of Ollivier to apply the forceps on the thighs rather than to the pelvis of the fœtus, though seductive theoretically, does not answer practically. It is difficult to limit the pressure of the forceps to the thighs only; and if this be not done, the abdomen would be unduly pressed on and possibly even the liver injured. The convex extremities of the forceps pressing on the convex surface of the thighs gradually slip downwards and forwards, and after a few pulls the original good hold is lost. Much easier and safer is the plan of applying the forceps to the side of the fœtal pelvis. The iliac bones at this period are so elastic, and, compared with the bones of the head, are so protected by the soft parts, that, even if the force of compression be somewhat abused, it is not only difficult but almost impossible to injure the fœtal pelvis. To obtain a secure hold, the extremities of the blades must be passed beyond the crest of the ilium; when the handles are approximated, they bury themselves slightly in the abdominal parietes, and, on traction being applied, bear on the crests of the ossa innominata, and at the same time impart to the hips of the fœtus a convexity to which the concavity of the blades of the forceps exactly adapts itself. The liver runs no risk of injury, since, large as it is in the fœtus, it never descends to the level of the crest of the ilium; besides, its lowest part is the thin edge of the right lobe, which may be displaced inwards, but runs no risk of contusion or laceration by the external pressure of the forceps. The same may be said of the intestine, which from its motility avoids the consequences of even considerable pressure, if this be made in a methodical and gradual manner. A folded cloth may be placed, as suggested by Tarnier, between the handles of the forceps, to avoid using too great compression. The forceps take a better hold, and the author has never seen it slip in sacro-anterior positions. He recommends, in some cases of sacro-posterior positions, that the position should be altered by a forcible rotation of the sacrum forwards before using traction. It is better, too, he says, to keep up a certain amount of compression in the intervals of traction; if this be not done, the iliac wings by their great elasticity tend to resume their normal shape, and possibly the forceps may be displaced.

Perineal Sutures.

We take the following from the *Canada Med. and Surg. Jour.*, January, 1884: We believe it is agreed on all hands by the modern school of obstetricians that puerperal lacerations of the perineum ought to be brought together and so maintained by sutures, immediately, or as soon as possible, within a few hours after the labor. Experience shows that it is not necessary that the sutures shall be applied immediately after the expulsion of the placenta. In our personal experience, in one instance, complete success followed the introduction of the sutures six hours after the receipt of a most extensive, ragged, and profusely-bleeding laceration, extending through the sphincter, and some distance up the recto-vaginal septum. A variety of material for suture may be used. Silver wire, though possessing advantages, is certainly not necessary to success, and it is open to objections, not the least of which is that it is much more painful than a more pliable material. The twisted ends of the wire catch on bed clothes and body linen, and acute suffering is thereby caused. Chinese twisted silk is equally efficient, and not open to these objections. It is easier of application than wire. We have heard of a case treated with linen thread, and resulting in perfect success. These facts should be borne in mind by the obstetrician who meets with this accident far from home and his armamentarium. A darning needle and a strand of strong thread may suffice. Hitherto the interrupted suture has been exclusively used. In a recent number (the last but one), of the *Centralblatt für Gynækologie* (No. 49, 8th Dec., 1883), appears a short article by Brosé, Assistant Physician at the

Royal University Clinic for Women, in Berlin, on the "Continuous Catgut Suture for closing Perineo-vaginal Lacerations." The author claims decided advantages for the continuous or furrier's suture (kürschernaht) over the interrupted suture. It is more rapidly applied. He begins at the upper part of the rent in the vagina by making one knotted suture. He then continues in a spiral. If the rent be deep, it is first brought together in its deeper parts by a spiral, which prevents the formation of pockets. The same process continuously applied closes the upper parts. If catgut be used, no attention need be given to its removal. At the end of the sixth day it has disappeared, and the union is firm. The thicker sorts (about No. 2 of Lister's catgut), should be used. Before and during the suture the wound is irrigated with a solution of corrosive sublimate, 1 to 2,000. Afterwards it is covered with a thick layer of iodoform. Eighteen cases treated after this method are reported—all being successful. One of the cases, with a slight perineal laceration, died of peritonitis on the sixth day, but the wound had united. The method deserves a trial.

Divulsion of the Internal Os for Dysmenorrhœal Head-ache.

In the *Northwestern Lancet*, February 1, 1884, Dr. George F. French thus writes:

Mrs. Z., æt. thirty-nine, began menstruating when but twelve and a half years old. A year later she fell from a horse and menstruation ceased, re-appearing but once in a year. Retroversion was discovered at the age of twenty-two, at which time Dr. H. R. Storer dilated the os internum for suppression of menstruation, with slight relief.

At twenty-six, Mrs. Z. was married. Two years later she suffered a miscarriage—from which time date menstrual headaches of most violent character, lasting from three to seven days, and continuing periodically for ten years. Opiates and chloroform afforded no relief—potassium bromide and chloral aggravated the symptoms—ergotine sometimes mitigated the distress.

Six years ago these headaches became intense beyond description—the patient becoming at times almost maniacal in spite of the free use of opiates and the administration of chloroform.

In 1876, Prof. T. G. Thomas made a successful operation for vaginismus, and the same year one for coccygodinia, caused by a fall. In 1877, Dr. Buck, of Oakland, Cal., instituted systematic dilation, with sponge tents, by which means the headaches could be invariably averted. When dilation was omitted, the headaches appeared and menstruation was scanty. These dysmenorrhœal sufferings were never referred to the pelvis, but always to the head.

The patient came under my care in September, 1881. In watching the case, sometimes dilating the os and occasionally omitting to do so, I saw that there existed a causative connection between the headaches and the undilated os internum. Fully convinced of this, I determined upon divulsion, an operative procedure warmly advocated three years ago by Dr. H. P. C. Wilson, of Baltimore, before the American Medical Association, and which occasioned much adverse criticism.

On June 14, 1883, I forcibly ruptured the internal os with a Thomas' dilator, the patient being profoundly etherized. The resistance encountered was somewhat formidable; when the ring gave way after prolonged and exhausting effort, the rupture was audible. Patient remained in bed for a fortnight. No effort was made to prevent recontraction; no rise of temperature or other constitutional disturbance followed the operation; since which the patient has never had a headache or any form of dysmenorrhea, and her general health is much improved.

The Sense of Pain in the New Born.

The *Weekly Medical Review*, Jan. 26, 1884, says: The sensibility to pain in new born infants is a question of considerable interest from various points of view, in addition to its interest as a physiological and psychological fact. In the first place it is of special importance relative to any operation which may be necessary in the early days of its existence; then again it is of importance to the nurse, who, in the absence of this sensibility to pain, should increase her vigilance in reference to external sources of irritation. The Glasgow *Med. Jour.* quotes Genzmer on this general question of senses in new born infants as follows:

The sense of touch is developed from the earliest period, and reflex actions are readily excited by the slightest stimulation of the nerves of touch, especially of the face, then of the hands, and soles of the feet. The feeling of pain is but slowly developed, and is only clearly exhibited after four or five weeks, before which time infants do not shed tears. True muscular sense is at least doubtful. Excitement of the sense of touch gives rise to unconscious reflex movements; the amount, therefore, rather than the quality of sensation is observable. Closure of the nostrils occasions a reflex dyspnœa. Hunger and thirst are manifested in an increased general irritability, followed by reflex movements; these cease after the first week. Smell and taste are not distinguishable to infants. Genzmer asserts, in opposition to Kussmaul, that the sense of hearing is perceptible in the first, or at most the second day of life. New-born infants are so sensitive to light that they will turn the head to follow a mild light; whilst if a strong glare be suddenly thrown upon the eye squinting is induced, and even convulsive closure of the lids. After a few days, the child will follow the motion of various objects by movements of its head. Between the fourth and fifth weeks the convergence of the pupils and the power of co-ordination in vision are perceptible. A distinct perception of color does not exist under four or five months; before then it is quantity rather than quality of light that is recognized. The inhibitory reflex centre is not yet developed in the eye; weak and moderately strong irritation excite movements which serve that purpose. Excessively strong impressions only excite passive movements. New-born infants cannot separate the impressions on their organs of sense. The readiness of excitability is shown in the fact that the stronger the stimulation, the shorter the physiological interval.

Double Os Uteri and Vagina.

Dr. John W. Taylor reports this case in the *Brit. Med. Jour.*, January 12, 1884:

On the evening of October 6, 1883, I was called to a case of labor. The patient had been married five years; this was her first confinement. The pains were strong and expulsive. On examination, I found the cervix long and undulated, the external os only just admitting the tip of the finger; the internal os and uterine cavity could not be reached. The head of the fœtus could be plainly felt in front of the cervix, apparently pushing its way with every pain directly through the vaginal roof.

Extreme anteflexion of the gravid uterus and extra-uterine pregnancy appeared to me to be the only causes which could produce any thing similar to this; but the former was negatived by the size and shape of the abdomen, and the latter idea it was, of course, impossible to entertain. Finding myself altogether unable to understand the case, I drove on to the house of my friend, Mr. Lawson Tait, to see if I could obtain some light on the subject. He evidently considered it (most likely in consequence of being engaged, and of my description being imperfect) as probably a case of lingering labor in a primipara, and gave counsel accordingly. On my return I found the patient in the same condition as before; the pains violent, the cervix undilated, and the head of the fœtus apparently crushing through the head of the vaginal roof, the structures between the examining finger and the head of the fœtus being so thinned by pressure as to give the impression of being on the very point of bursting. On closer examination of the soft parts, however, I found the explanation of the phenomena. There were two vaginæ, two cervices uteri, and possibly (but of this I could not be sure) two uteri. The patient was lying on her left side, in the usual obstetric position; my finger had always passed into the left vagina, which was empty, and the fœtus was coming through the right cervix and right vagina. I delivered the patient with forceps about 4 a. m.; unfortunately, the child was dead. A little laceration of the septum between the two vaginæ occurred in the delivery, but this was not to any great extent; and the patient has made a good recovery.

Septic Pneumonia in Infants.

Dr. Oscar Silbermann (*Deutsch. Arch. f. Klin. Med.*), draws the following conclusions from an analysis of twelve cases:

1. The septic pneumonia of the new-born and infants always originates with a tracheo-bronchitis, and is to be regarded as a catarrhal pneumonia, in many cases due to the presence of a foreign body.

2. It may be produced by inhalation of decomposed amniotic fluid or genital secretions, or through inhalation of infected air in cases of septic infection of the mother.

3. The septic pneumonia of the new-born frequently originates with disease of the pleura, but seldom with disease of other organs, in contradistinction to other septic processes in infants, which are usually associated with multiple points of origin.

4. The alveoli and bronchi of children dying from septic pneumonia are always filled with masses of bacteria.

5. The blood in cases of septic pneumonia in infants shows a great increase in the white corpuscles, with breaking down and solution of the red blood-disks.

6. Jaundice is a constant accompaniment of this disease.

7. The disease usually originates from one to two days after delivery.

8. The disease is always fatal, usually on the third or fourth day after birth.

9. The access of septic material to the lungs in the new-born is favored by insufficient closure of the glottis, and by the shortness of the main bronchi.

10. The wide distribution of the septic process in the lungs is due to active epithelial desquamation and the narrowness of the finest bronchi, as well as the feeble muscular apparatus of the respiratory organs of the new-born child.

Castration in the Female.

In the *Ann. de Gynec.*, December, 1883, **Tauffer** thus formulates his experience of twelve cases:

1. With necessary precautions this operation is not very dangerous; the mortality being only ten per cent.

2. It should be done under the spray; the abdomen should be closed; drainage is only exceptionally necessary.

3. The fact that the woman is near the menopause is no contraindication, for we cannot positively say when the menses will cease.

4. It is impossible to give any rule for operating, such as Hegar's that the ovaries should be accessible to palpation.

5. Double ovariotomy should be performed, especially when a single ovary is diseased, except in the rare cases where one of the organs must be preserved.

6. The Fallopian tubes should be removed if they are diseased in any way.

7. Hystero-epilepsy is curable by castration; and the group of symptoms known as hysteria is often attributable to ovarian disease.

8. The question as to the effect of the ligature of the large supplying vessels on uterine fibromyomata needs further consideration.

9. As to prognosis, it is probable that the menopause will not be delayed after the operation, except in the cases in which inflammation has involved the neighboring organs. These inflammations retard the menopause.

10. It is desirable that the cases should be classified according to the plan suggested by Hegar.

VII. SURGERY.

The Surgery of a Cyclone.

In the *New Orleans Med. and Surg. Jour.*, February, 1884, Dr. LUTHER SEXTON thus writes:

I am not sure that the above caption is exactly correct, but some cases of such a peculiar type occurred in the late cyclone that swept over Wesson and Beauregard, that I think the title of the article admissible. Before entering directly upon the surgery of the cyclone, a few words on the meteorological phenomena which preceded it might prove of interest to the profession. For several days previous to the 22d April, we had a brisk breeze from the south-western direction, which in the evening seemed to meet a cold breeze from the north-west. Every morning this phenomenon was noticeable for one week previous to the cyclone. On the morning of the 22d of April, the same north-west wind was blowing, which seemed to meet at the equator, producing calms, that at times were almost oppressive. Cold currents of wind would occasionally pass, causing condensation and consequent showers during the morning. This condition of affairs lasted till about one o'clock on the morning of the 22d, when the elements began an ebullition resembling one vast chaldron, in which all the varieties of clouds seemed to be in one grand commotion. This increased until about two o'clock, when they could be seen to pass each other in opposite directions. There were two distinct cyclones on the 22d. About twelve o'clock a storm-center seemed to form about three miles west of Beauregard, and before it had passed over the distance of five miles, the wind had reached such a velocity that nothing could withstand its force. So great was its velocity that it demolished the residence of Mrs. Foles, killing five of the family, and twisting from the ground a large oak stump that stood under the house. It was the "Upper Cyclone" that blew away the Copiah church, fracturing the arm of the minister, and seriously injuring several of the congregation. The apprehension and the dread of this first freak of nature had scarcely abated, when another awful aloud loomed up in the south-west, and the distant rumbling of a gathering storm could be heard. Darkness increased in intensity until it almost equaled Egyptian blackness, and this darkness was illumined incessantly by the quivering glare of the lightning. About three o'clock this cloud struck the western portion of Wesson, utterly demolishing twenty houses, burying their inmates under their ruins. About one mile from Wesson, the same terrible wind passed over the town of Beauregard (population about 1000), and swept it out of existence. Everything succumbed to the fury of the cyclone, and the debris of houses and their contents were scattered in indescribable confusion through the air.

Can we account for the ravages of the cyclone by the usual explanations of the texts? As a scientific profession, and investigators, it behooves us to inquire into the nature of the atmospheric phenomena, which occur so frequently in the south and west; and in looking up the subject I must confess that I have found no satisfactory explanation of results. I observed during the late tornado, for instance, that the force required to drive a 4x6 scantling through a tree one foot in diameter (specimen at *Times-Democrat* office), has been attributed simply to the velocity of the wind. Now, this is out of all reason, for the swiftest wind (violent hurricanes) only travels at the rate of 100 miles per hour, with only forty-nine thousand two hundred lbs. pressure to the square foot. This amount of pressure to the square foot could not force a plank 1x12 through a young oak six inches in diameter (specimen at Smithsonian Institute, Washington, D. C.) In fact, this could not be accomplished by any artificial means, it matters not what amount of pressure could be brought to bear upon the plank.

From results which came under my observation, I think electricity plays a more important part in cyclones than is usually accorded to it. We know that all clouds, and even the air, are more or less charged with electricity. In the recondensation of the aqueous vapor, vast quantities of electricity are generated; heat produces electricity. In fact, heat, light and electricity are correlative terms; also, chemical changes going on in the air, the friction of clounds and different strata coming in contact, all produce electricity, and each and all of these conditions existed during and just before the late storm. Now it seems much more probable that the exhibitions of force, manifested by the late cyclone, should be a result of electricity, which, according to Wheatstone's experiment, travels at the rate of 288,000 miles per second, rather than to wind, which is known to travel only about 100 miles per hour. Another cause for attributing it to electricity is that, all along the course of the cyclone, trees could be found scorched and dying, solder upon tin cups and roofs was melted, wires and pieces of iron bent and distorted—some patients shocked to death, without sufficient bruises to justify a fatal termination. All these results, not attributable to the wind, together with the incessant flashes of lightning, the smothering condition of the atmosphere, and the hot flashes of passing currents which I experienced, forces me to the conclusion that electricity, more than the wind, was the destructive agent in the Beauregard cyclone.

The condensation and rarefaction of the atmosphere was considerably increased by the tall range of pine trees and undulating surface of the country over which it passed. Blinding sheets of rain poured for hours after the storm had ceased, and, as usual, the day after the storm was as calm and serene as a balmy spring morning. The usual law of a cyclone whirl being against the hands of a watch was true in this case, and the tops of trees on different sides of the storm-belt were pointing towards each other. This was the twelfth of a series of cyclones, that has visited this section during the last fifteen years.

We come now to the surgical portion of our paper. There were 266 wounded; 75 died (including those killed outright); 50 fractures, 10 dislocations, 15 cases of erysipelas, 2 of pyæmia, 2 of gangrene. It will be seen from this compilation of cases that a considerable field was open for surgical skill and treatment. Conservative surgery was the rule pursued in every particular case, and from the vast chaos of suffering, bleeding, mangled humanity that we excavated from the fallen wreck of prostrated houses, to report only one amputation (made a rapid recovery) and one case of trepanning, 15 cases of erysipelas, and two each of gangrene and pyæmia, certainly indicates that our surgery was conservative indeed. In my whole experience, strange to say, I only had to apply two ligatures. All or nearly all the wounds were of the lacerated variety, and had no tendency whatever to hemorrhage. As erysipelas is a sequel of any accident which throws a number of wounded subjects together, in this case we found no exception to the rule. It sprang up like a mushroom at night. Being a specific disease with a specific course, did it originate here, or was it conveyed here by some physician tending cases of similar character elsewhere? The etiology of isolated cases of erysipelas, typhoid fever and kindred diseases, is a great mystery, and an unexplainable fact in the ordinary way by our country physicians. There being no connection with other cases, we attributed it to the sudden atmospheric changes, the debilitated condition of many of the patients, and the want of proper cleanliness.

But to come from general to more particular cases would be probably of more interest to the readers of the Journal. I will first mention some wounds, unique in their character, at least different from any I have ever seen described in our text-books.

Case I.—W. S., æt. 4 years, had a lacerated wound of the scalp just above the sagittal suture. The little fellow was first seen by two physicians on the 23d, who dressed the wounds with the usual carbolized dressing. On the 24th I saw him with Dr. Rowan, and in cleansing the wounds, found a piece of pine splinter driven into the skull between the two parietal bones. It required considerable force to extract it, and on being withdrawn a jet of blood was thrown several feet into the air, owing to the coagulated state of the longitudinal sinus. We were somewhat puzzled to know what to do, but after a considerable portion of blood had escaped, we closed the opening with carbolized lint, and applied a compress and bandage. Two days afterwards, when it was removed, the opening was found to be filled with a firm clot.

Case II.—Mrs. D., æt. 28, had a picket 3 feet long driven through the right leg, fastening the right anterior crest of the tibia, passing through the interosseous space and coming out one foot on the other side. It seemed incredible that this could have happened without fracturing the bones of the leg, or wounding the anterior and posterior tibial arteries. Convalescence in this case was very protracted.

Case III.—Mr. H. had a lacerated wound through the pectoralis major muscle, just over the heart, from which were extracted half dozen splinters, seemingly almost in contact with the pericardium. This case made a speedy recovery.

Case IV.—D. W. had a lacerated wound from the anterior portion of the frontal bones, back across the parietal and occipital bones, eight inches in length. The scalp was torn up from the cranium for several inches; the parts were brought together by suture and adhesive straps, after the adjacent parts had been shaved clean. The sutures seemed to create some inflammation, as they were removed, and the parts were kept well approximated by the adhesive plasters till union was complete without much suppuration. The wound united in its entirety in two weeks, though the ear on the wounded side is about one inch lower than the one on the opposite side.

Case V.—Mrs. A., æt. 32, mother of four children, in the sixth month of gestation when the storm occurred. Two of her children were killed, she had her left arm broken, and a lacerated wound eight inches long just across the abdomen. She was unconscious for about ten hours, but recovered in a remarkably short time from the injury and the fracture. She never had any pains or symptoms of abortion, and was delivered of a healthy child three months afterwards.

Case VI.—A negro woman was struck on the head with a flying missile; produced a compound fracture, with depression of the piece of bone, which was entirely detached. In order to remove this, the opening had to be enlarged by the trephine, when a wedge-shaped piece of bone was raised off the brain. In this case either the injury to the brain was already too great, or the shock excessive, and it resulted in her death two days after the operation.

Case VII.—I would like to call the attention of the profession to ten cases, which occurred under my immediate charge, and which are so similar in character that they can be described under the same heading—concussion of the brain. The cases referred to were found immediately after the cyclone, some with marks of injury about the head, others with no signs of external injury. They were unconscious, with full pulses, pupils contracted most of the time, nausea in some. No tendency to void the urine or evacuate the bowels; no particular coldness of the surface; no perspiration; breathing in one case as low as eight per minute. Eight out of ten cases recovered under the ordinary treatment for concussion, viz: Removal of all compressing clothing and free ventilation, free purgings, smelling salts, and stimulants, if necessary. Reaction in these cases was very slow, and in those cases where no external violence could be found, it occurred to me that the shock might be due to some electrical influence, as the air was so charged with electricity that the solder on the tops of the roofs was melted, as before referred to.

Before concluding this article, I would like to call the attention of the profession to some practical points which may prove of interest to some and benefit to others. And the one that suggests itself to my mind is the invaluable aid we derive from chloroform in the manipulation of fractures, and especially in reducing dislocations. (These operations are often performed without the aid of any anæsthetic.)

We used it in nearly every case; and, I feel justified in saying, to a great advantage, as the shock and pain necessary in a careful examination and manipulation would much more than counterbalance the risk of administering chloroform.

A few minutes before giving the chloroform we usually either administered a hypodermic of ¼ gr. morphine, or gave a somewhat larger dose by the mouth. After the morphine had produced some narcosis, it often only required about one drachm of chloroform to produce complete anæsthesia. The morphine, I think, also prevented nausea, usually so common after chloroform.

Instead of the carbolized water and oil dressing to offensive and sloughing wounds, we used the fluid extract of calendula (marigold), just enough to color the water considerably, and found it to act much better in some cases than the time-honored carbolized water. It removed all odor from rooms where the acid entirely failed, and in some way seemed to promote the healing and granulation in a remarkable degree.

The medicinal properties of this plant had been mentioned several years ago by Dr. Sivesy, but from some cause it has never been given a trial by most of our physicians.

Another very valuable addition to the usual carbolized oil dressing was about five drops of oil of eucalyptol to the ounce of carbolized oil, which seemed to increase the healing properties of the oil—at least it removed all the disagreeable odor of this agent, which becomes so disgusting to the patient by its continuous use.

All our cases of erysipelas recovered, though we had to contend with some of the *severest cases* of this complication in the head and face.

We usually began the treatment with a purgative dose of calomel, podophyllum and soda, followed by salts, or oil, if necessary. Then, twenty-drop doses every four hours, of tincture of iron, with tonic doses of quinine. Evaporating lotion of alcohol, chloride of sodium, and glycerine to the part when feverish or inflamed. Nourishment kept up constantly.

In nearly all our cases of fracture we applied immovable dressings, as our patients were scattered over the town and surrounding country, so that it was impossible to see them very often.

In most of the cases we used the gypsum dressing—we used it with a great deal of satisfaction in all fractures, but the remarkable success we had in fractures of the femur, deserves special mention. Out of the sixteen cases, only four cases had any perceptible shortening. In two cases, where the fracture was in the upper third of the femur, we extended the bandage up around the pelvis and body, which in every case insured the position of the limb, and the amount of security we felt for our patient while away was additional pay for our trouble.

In concluding this article, I feel it incumbent upon me to allude to our visiting physicians, for their self-sacrificing dispositions in leaving their homes and business to attend to the cries of the wounded, and minister to the wants of the dying.

They came like angel messengers, with healing on their wings; and some from distant States were prompted to give us the benefit of their time, labor and experience, exemplifying the characteristic liberality of the profession. Their labors were performed without any expectations of reward, further than a conscience that bespeaks a duty done. Their names are too numerous to mention, but they will be retained in the hearts of our suffering people so long as time shall last.

Angel-Wing Deformity.

Dr. Thos. R. Dubois says in the *Canada Lancet*: This is a peculiar affection which, on account of its rarity, is more of a curiosity than otherwise. In the course of twenty-five years' practice I have met with three cases of it, and all of these have occurred within the last seven years. I also heard of another case from the first patient I saw with it. He stated to me that an acquaintance of his was similarly affected, and that he obtained relief by wearing a strap around his shoulders in such a manner as to keep a pad firmly pressed against the posterior surface of the shoulder-blade. The deformity is easily recognized, once its prominent features are known; but since so few authors have noticed it in their writings, a patient afflicted with it might easily pass under review without its being detected—the pain and weakness of the shoulder being referred to a sprain or bruise or to a rheumatic affection. To give such a short account of it as may refresh the minds of some of the readers of your widely circulated journal, is my object in detailing the following particulars.

The disease usually commences by pains in the shoulders and upper part of the arm, at the root of the neck, above the scapula or immediately beneath it; the pains may be of an intense darting neuralgic character, or dull and aching so as to produce a tired sensation rather than acute pain. Neuralgic pain may co-exist in other parts of the body. Loss of power in the parts and inability to sustain prolonged exertion with the arm and shoulder, gradually make their appearance. When the patient's arms are held loosely by his or her side, very little deviation from the normal can be seen. By close inspection, however, the inferior angle of the scapula on the affected side may be found somewhat nearer to the mesial line than the other one, the vertebral border traced from below upwards, thus assuming a direction more outwards than natural, and the lower angle of the scapula may also be a little too far from the chest-wall. When the patient attempts to raise the arm, all these deviations are exaggerated and can be readily and distinctly seen. The arm can be raised voluntarily only to the horizontal position, and while this is being done the vertebral border of the scapula rotates outwards in such a manner that the anterior surface of the bone forms nearly a right angle with the wall of the chest. This leaves a very large and deep hollow between the thorax and the scapula, and thus exhibits that peculiar outstanding condition of its posterior border which has given this deformity the distinctive name of "angel-wing." Faradic reaction is lost, and galvanic excitability greatly diminished in the paralyzed muscles. In long-standing cases, atrophy of the muscles supervenes. This disease may be from two weeks to two months from the beginning of the pains till loss of power in the parts and the full characteristic symptoms manifest themselves, and it has an indefinite duration.

This disease usually occurs in weakly young persons, and may result from injury or overwork (and hence is more common in males, and on the right side of the body), from direct injuries to the nerves, from falls, blows, wounds, carrying heavy weights upon the shoulder, from rheumatic influences contracted by sitting in draughts, or exposure to wet; and even the syphilitic poison has been suspected as a cause. In my first case, the patient was a loosely made, rapidly growing farmer's son, about 18 years of age, in whom the disease was directly traceable to hoeing, having been a long time engaged in hoeing potatoes and corn. In my last, the subject was a delicately formed young lady, of nervous and excitable temperament, who had overdone herself by long hours and intense application at some fancy needlework which she was anxious to have completed within a given time.

Putzel says, "quite an extensive journal literature has been published on the subject; but as the paralysis which produces the affection is of comparatively rare occurrence, its real cause remains undecided." He further remarks that it is usually unilateral, and that the large majority of cases have been observed upon the right side. In the three cases which I have seen, the first was upon the right side, and the last on the left side; but I cannot now remember on which side the second was. The same author gives this disease the pathological name of Paralysis of the Serratus Magnus; but I refrain for the present from giving it other than the synonym heading this article, as its real pathology does not seem to be entirely agreed upon.

By consulting authors, I have found several notices of this affection, the descriptions of it varying somewhat in each; and by two, at least, the disease formerly supposed to be "dislocation of the lower angle of the scapula over the latissimus dorsi muscle," is considered as a part of this affection.

In the "System of Surgery," edited by T. Holmes, second edition, vol, ii, p. 757, the following occurs in a note following sprain about the shoulder: "In connection with this subject a curious injury may be mentioned, which has been described as displacement of the inferior angle of the scapula over the edge of the latissimus dorsi muscle. . . ." Then follows the report of three cases, being all that the writer had been able to collect of *anything analogous to this*, and none of these, he says, did "exactly correspond with the description given by Liston; for although the posterior border and inferior angle of the scapula projected very markedly, there was no distinct account of any injury, and the affection seemed rather to be *paralysis of the muscles* attached to this part of the bone, especially the serratus magnus." "In the last mentioned case," he continues, "the subject was a delicate-looking girl of fourteen; the whole of the posterior border of the right scapula was very prominent, and seemed to meet the skin covering it almost at a right angle. The inferior angle projected only a little more than the rest of the border, but the fingers could be passed fairly beneath it. The scapula could easily be pressed into the proper position, but it immediately started back again when left to itself. The motion of the arm was weakened and impaired." The writer further on states as follows: "I have seen a few similar cases. In all, the projection of the lower angle of the scapula was apparently due to atony of the muscles attached to the vertebral border of the bone, and in no instance was there a history of any antecedent injury."

Professor Gross describes a mal-position of the scapula, which he thinks arises from paralysis of the rhomboid muscles, and which, in its semeiology, evidently agrees with the disease under consideration; he holds also that that condition termed dislocation of the scapula, in which the inferior angle is supposed to lie upon, instead of beneath the latissimus dorsi, is frequently of a similar nature and depends upon relaxation of the muscles. Excepting that form of dislocation which depends upon direct injury, the fact seems to be that the "dislocation of the scapula" of the older authors, the affection referred by Gross to paralysis of the rhomboid muscles, and the "angel-wing deformity," supposed by Putzel to depend upon paralysis of the serratus magnus, are varying phases of the same disease.

What then is the true pathology of these abnormal conditions of the scapula? Gross inclines to the view that the chief trouble is paralysis of the rhomboid muscles; the writer in "Holmes' System" that the serratus magnus is implicated as well; and a late case exhibited before the clinical section of the Birmingham and Midland Counties Pathological Society, Nov. 30th, 1883, elicited the following opinions: "Mr. W. F. Haslam showed a patient with an affection of the scapular muscles, which allowed the right scapula to project from the thoracic wall when the shoulders were thrown back. The right acromion was depressed, and the arm could not be raised much above the shoulder. He thought the condition due to paralysis of the trapezius. Mr. Jordan Lloyd believed the rhomboidei were the muscles most in fault. Mr. Bennett May thought the serratus magnus was the muscle paralyzed, and that the lower end of the scapula had slipped from under the latissimus dorsi."—*Brit. Med. Jour., Dec.* 8, '83.

I have inserted this case here to illustrate the obscurity in which the true pathology of this affection is shrouded. My own opinion is, that the serratus magnus and the rhomboidei muscles must all be more or less paralyzed, to produce the affection in its fully developed state. Paralysis of the serratus magnus alone, while it would permit the vertebral border of the scapula to recede from the thoracic wall, could not produce that outstanding condition of this border of the scapula so characteristic of this affection, because the rhomboideus major and minor would resist it; and not only would they resist it, but from their obliquely downward and outward course they would pull the lower angle of the scapula upwards and inwards, and cause the vertebral border to assume a direction very obliquely upwards and outwards from the mesial line of the back. This direction of the vertebral border is not decidedly marked; hence it follows that the rhomboidei must also have lost their contractile power. Now, paralysis of the serratus and rhomboids together would produce the condition of parts we are considering, while the trapezius and levator anguli scapulæ still retained their power; the first of these holding the scapula in place laterally and preventing rotation downwards and forwards; the latter holding the scapula up, and preventing it from sinking down perpendicularly along the side. If we examine the origin of the nerves supplying these muscles attached to the scapula, we may arrive at a better understanding of the lesions that are present. The trapezius is supplied chiefly by the spinal accessory, but receives communications from the cervical plexus; this, therefore, may be laid aside for present purposes. The levator anguli scapulæ is supplied chiefly by branches from the cervical plexus; but the cervical plexus is formed by the anterior branches of the four upper cervical nerves, and is, therefore, above the source of nerve-supply for the serratus magnus and rhomboidei. The rhomboid muscles and serratus magnus are supplied by branches from the fifth and sixth cervical, the rhomboid branches being from the fifth alone, and that to the serratus—the posterior thoracic—from both the fifth and sixth. It is quite reasonable to suppose that if the cause of paralysis existed at the roots of the nerve to the serratus magnus, the nerves to the rhomboidei also, which arise with one of the roots of the foregoing, would suffer, and we ought to have paralysis of the rhomboidei co-existing with paralysis of the serratus magnus. Putzel, although he refers it to paralysis of this last muscle alone, very judiciously adds: "The other muscles of the scapula and shoulder should also be carefully examined, as we not infrequently find that the same cause which has produced the affection under consideration, has also given rise to paralysis of some of the other adjacent muscles." We are therefore forced to the conclusion that "angel-wing deformity" is due to paralysis, more or less complete, of the serratus magnus and the two rhomboids, and that the projection of the lower angle of the scapula heretofore described as "dislocation over the latissimus dorsi," is due to the relaxed condition of the muscles that hold the scapula in place, and is not an independent affection. Of course the paralysis may not stop here, but other muscles of the shoulder may become implicated, according to the gravity of the cause producing the injury to the nerves; but for the production of the affection under consideration paralysis of the three muscles stated is sufficient; and all of these, I hold, must be involved to produce a typical case.

A few words with respect to the treatment of this disease may not be out of place. As the subjects of it are generally weakly and ill-nourished or over-worked young persons, the first great object is to improve the general condition of the patient. Fresh air, gentle exercise, good diet, with the use of the shower-bath or salt-water bathing, friction over the body, chalybeate tonics, nux vomica, and such other remedies as adapt themselves to the circumstances of the patient. Putzel, from whose work I have already quoted, recommends electricity as the great means of cure. One electrode should be placed over the roots of the affected nerves (on the neck above the clavicle), and the other over their distribution, as in the axilla, along the origins of the serratus magnus, or behind the chest, between it and the outstanding scapula. Counter-irritation, if there is pain, and the use of morphia when urgently demanded. Many other means will readily suggest themselves to the attendant physician, once he is fully satisfied as to the pathology and etiology of the disease.

Fatal Fæcal Obstruction.

Dr. Eustace Smith reports this case in the *London Med. Times*, Feb. 2, 1884:

William T. R., aged 8 years, was admitted into the hospital on the afternoon of January 4, nominally under Dr. Smith's care. Owing, however, to the boy's somewhat unexpectedly rapid death, he had not the advantage of being seen by Dr. Smith; and for the clinical details of the case we are indebted to Mr. Skete, one of the resident officers, who was on duty in the hospital at the time of the patient's admission.

The previous history was as follows:

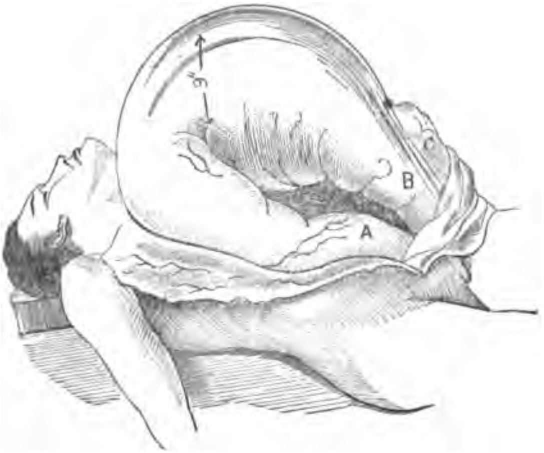
His bowels have been inactive from infancy. He has always had a big belly, and has suffered from flatulence, and been accustomed to take purges.

He was an in-patient in the Bristol Children's Hospital in 1881 for seven weeks. While in the hospital his abdomen became smaller. His bowels were afterwards fairly regular for about a fortnight. He has never complained of pain, and was much relieved by passing wind. The family history is good. His parents have one other child. About the first of January this year, his mother noticed his stomach getting larger, and he was brought to the hospital on this account. On admission, his bowels were said not to have acted for a week, the motion then being very small and dark.

After his admission to the hospital, he seemed very thirsty and constantly asked for milk, which he returned immediately, putting his fingers into his pharynx to induce vomiting. His abdomen during the evening became more swollen, and his feet very cold.

In view of the apparent chronicity of the disease, no immediate danger was anticipated. The boy, however, became very restless about 11.30 p. m., and when in the act of swallowing a sleeping draught of bromide of potassium and hyoscyamus, he quietly died. There was no fæcal odor about the vomited matters.

Autopsy: At the *post-mortem* examination, made by Mr. R. W. Parker, with the assistance of Mr. Arthur Maude, and in the presence of Dr. Donkin and some visitors, the body was found to be well nourished. The abdomen was enormously distended. The lower limbs were somewhat œdematous, especially the left. On opening the body in the usual manner, and after removal of the sternum, the highest point of the diaphragm was found to correspond with the third intercostal space. The heart was very much flattened on its posterior aspect, doubtless between the diaphragm and the chest-wall; its right side quite empty. The lungs were healthy; a small quantity of serum was found in each pleural cavity. In the abdomen was contained a small quantity of slightly turbid serum. The small intestine, which was quite empty, and in all respects healthy-looking, was completely hidden from view by coils of the large intestine, which were enormously distended. Occupying a considerable portion of the central part of the distended abdomen, was the sigmoid flexure; reference to the drawing (at A, B,) will make its size and relative position more easily understood; at ths spot marked with an arrow, its semi-diameter measured 9 inches; at A, a stone-like mass of solid fæces was found, and this was the cause of the obstruction. At B, the gut curved backwards rather sharply and then passed through the left lumbar region as the descending colon C is a portion of the transverse colon, which is much distended, and apparently elongated. It passes beneath B, obliquely from left to right, to the hepatic flexure of the colon, which it joins. Along its centre, the unaltered great omentum is attached; the stomach is greatly dragged upon, contracted, and quite empty. At A, the bowel passed into the pelvis and, resuming its normal size, became the rectum. It would seem as if, owing to its being bound down by a very short meso-rectum, the rectum as it dipped down into the pelvis formed an acute angle with the part marked A; the hard mass of fæces above mentioned was thus quite unable to pass, and hence the fatal obstruction. All the coats of the large intestine were much hypertrophied; the peritoneum also was greatly thickened, and could be peeled off in considerable layers; its surface, however, was nowhere split; the longitudinal bands. were especially thickened. The shaded spot (in the woodcut) between A and B was thickened peritoneum, and it bound these parts of the gut firmly to each other.



The large intestine was filled with dark olive-green thickly-liquid fæces, of which not less than half a bucketful was removed. The intestine was then well washed out, and its interior surface examined: beyond a little congestion, it presented no abnormality. The solid mass of fæces, described as at A, was of the same color but, being drier, of a somewhat darker shade; this mass was of the consistence of sun-dried clay, and considerable force was required to break it up; it was of the size of a double adult fist; when broken up, it presented a very scintillating appearance, owing to the large amount of crystalline matters which it contained. The odor, though characteristic, was very mild.

The kidneys, liver, and spleen were all normal. The psoas muscles were both very much atrophied.

The sketch from which this woodcut is taken, faithfully represents the relative position and size of the intestinal coils.

Remarks:—Such extensive cases of fæcal accumulation (sterco-enterectasis or coprostasis, to call them by their proper names) as the present one are very uncommon, and fortunately fatal cases belong to the greatest rarities. The absence, in this case, of those graver symptoms which accompany acute obstruction, was very noticeable; this, coupled with the faulty history, and the very lengthened period over which the constipation had lasted—it was practically from birth—renders it hardly surprising that the child's death was unlooked for by the medical officer in charge of the case, or that the cause of the death, fæcal impaction, was quite unsuspected. The greatly-distended condition of the large intestine, the hypertrophy of its walls, the healthy condition of its mucous membrane, the absence of all constriction below the seat of the impacted fæces, and the fatal termination, are the chief points of interest. The fæcal mass did not present any nucleus (plum stone, foreign bodies, or even enteroliths) around which fæces had collected, such as is found in many cases of this kind, but it contained a considerable quantity of "intestinal sand," to which doubtless the glistening aspect before alluded to was due. In adults, the habitual use of narcotics, the presence of tumors in the pelvis, pregnancy, wearing of pessaries, are sometimes found to give rise to fæcal accumulation and obstruction; but in the present case no physical cause could be assigned. Some authorities believe such habitual constipation to be due to deficient production of the intestinal juices; the mucous membrane was not examined microscopically, and it is therefore impossible to say whether any congenital peculiarity of its secreting gland structure existed in this case; the fæces found in the large intestine were in the form of a thick liquid, and would thus favor such a view.

The absence of peri-typhlitic inflammation was perhaps not very strange, seeing that the stress of the disease lay in the sigmoid flexure; on the other hand, the absence of all ulceration within the colon is a little remarkable. Next to the rectum, fæcal accumulation in this position is the most accessible to surgical treatment, as being within the reach of a scoop, or of an enema; differing in these respects from accumulation in the caput coli, where it is both inaccessible, and so to speak, outside of the ordinary fæcal current, by which it might be swept onwards.

Diaphragmatic Hernia of Stomach.

In the *St. Louis Courier of Med., Feb.*, 1884, Dr. D. V. Dean reports this case: David Wallace, colored, thirty years of age, steamboatman, was admitted to the hospital about noon, Monday, April 2d. He was in a state of partial collapse and quite stupid, so that his complaints and answers were very unsatisfactory. He complained of pain in the "pit of the stomach" and in the region of the descending colon, not aggravated, but lessened on pressure; and that the pain commenced and was severe the previous Saturday night. Said he had had no passage from the bowels since Thursday night; had been constipated for a long time, having ordinarily a passage only once in two or three days; and that he could keep nothing on his stomach. He said he had not been injured by a fall or blow. He did not vomit, but constantly called for water, which he immediately regurgitated after swallowing, bismuth powder in water sharing the same fate. There was no tumor of the abdomen perceptible; no meteorism; the abdomen being, on the contrary, contracted, and the walls tense. Enemata containing sulphate of magnesia were administered and passed off again, carrying scarcely a trace of the ordinary contents of the bowels. There was no marked dullness in either chest, pneumothorax, or tympanitis. From the absence of stools, the absence of fæcal matter in the returned enemata, which had previously passed readily into the bowels, and from the absence of meteorism and of any tumor in the abdomen, I suspected there was an obstruction of the alimentary canal high up, though there were no marked efforts at vomiting. As, on swallowing, liquids appeared not to enter the stomach, but were immediately regurgitated, untinged with blood or bile, and without traces of food, I concluded the obstruction must be in the lower part of the œsophagus. The patient was the subject of a lecture of perhaps three-quarters of an hour by a professor of one of the schools; and, in diagnosticating by exclusion, diaphragmatic hernia was mentioned, but not seriously thought of by us as the trouble, because of the negative symptoms, such as absence of any tympanitic resonance in the thorax, of dyspnœa, etc. Patient was unwilling to take food, but gave no history of having had difficulty in swallowing food, except, as he said, he could keep nothing on his stomach. He found no relief from pain except under the influence of hypodermatic injections of sulphate of morphia, and died suddenly at 10.15, the morning of the 3d. I had intended to try œsophageal bougies, but had not yet done so.

Upon opening the abdominal cavity at the post-mortem the stomach could not be found. The spleen and splenic flexure of the colon were drawn up close to the diaphragm on the left side. We found in the left thoracic cavity about 1500 cc. of blood, the stomach, the major part of the greater omentum, the gastro-splenic omentum, a part of the lesser omentum or hepato-gastric ligament, and a small portion of the transverse mesocolon. On opening the stomach it was found to be intensely congested, the walls much thickened, the mucous membrane nearly black, and the rugæ very prominent. There was an opening about four centimetres in diameter in the centre of the left leaflet of the tendinous portion of the diaphragm, to the left of the pericardium, in which were engaged the cardiac portion of the stomach, the commencement of the duodenum, and the epiploa before mentioned. These parts were very tightly constricted, even strangulated, in this opening of the diaphragm. The centre of this opening was about ten centimetres from the centre of the œsophageal opening through the diaphragm, so that the passage of the two extremities of the stomach through the opening had so drawn upon the gastro-phrenic ligament that a distinct fold of the diaphragm upward between these openings was formed, large enough to admit the forefinger readily between this portion of the stomach and the diaphragm, inside the fold, the direct distance across from opening to opening, on the under side, being only about six centimetres. From the posterior border of this opening a flap of diaphragm, about four centimetres in width, and about as long, thin and fibrous in the posterior half, thicker and more muscular anteriorly, lay loose upon the surface of the stomach. A portion of the anterior border was so closely adherent to the parts dislocated that its pleural surface seemed almost a continuation of their peritoneal surface. The remaining portion of the opening had much the appearance of having been congenital, or chronic, the pleural or peritoneal membranes seeming as one, the border being not more than a millimeter in thickness. The stomach lay with its pylorus presenting to the right, anterior to the œsophagus, the posterior surface looking forward and downward, the epiploic border being anterior, having been kept drawn down by the greater omentum engaged in the opening, and the anterior surface presenting upward and backward, showing that the stomach had been dislocated forward, and not backward through the diaphragm. The lumen of the colon was entirely below the diaphragm, that portion of the bowel (splenic flexure) having been simply drawn tightly up against the diaphragm. From the greater change of the tissues of the duodenal engagement, I think the hemorrhage was from the right gastro-epiploic artery. As to the diagnosis, there seemed to be no need of further attempts at artificial filling of the stomach and intestines with air or water, nor did it appear that anything would have been gained in the diagnosis by inserting the hand per rectum and manipulating the colon. I was not aware how extreme was the patient's thirst until, after his death, I inquired of the night-nurse, who said patient kept him "constantly fetching him water." Had we been positive of a diaphragmatic hernia of any part of the alimentary canal, the indication would have been, most assuredly, laparotomy; for the patient is sure to die without it when so grave spmptoms are present as in this case, can only die with it, and may possibly be saved. I think the autopsy establishes very positively that the colon could not without injury have been reposited by the introduction of the hand through the rectum and drawing down upon the descending colon; and that the dislocation of the stomach could not have been reduced in any way short of enlarging the opening through the diaphragm, and manipulation from the thoracic side of the diaphragm. Though the post-mortem discovery of the irreducibility of the dislocation may satisfy one that nothing was lost in this case, yet it furnishes no argument or justification for omitting the only means yet devised—namely, an exploratory opening—by which this state of affairs can be known. If the complete operation is found to be not feasible, one discontinues, as under similar circumstances with ovarian tumors, and rests satisfied with having done all that could be done in the present state of science; but the diagnosis on which to found such indications is not always to be made in an hour, and sometimes it is not and cannot be made at all. My patient died before more than a partial diagnosis was made.

A New Method of Amputating.

Dr. Henry C. Kerber thus writes in the *Weekly Medical Review*, January 19, 1884:

As is well known, amputation wounds do not heal as often by first intention as do other wounds of the same degree and size, and under the same conditions and dressing.

Neuber has recently published statistics showing the percentage in which primary union was obtained in the operations at the surgical clinic at Kiel, and covering a period of four years. These statistic show that certain wounds almost invariably heal under one dressing—among these may be classed the herniotomies, without gangrene of the gut (88 per cent. primam), and the removal of large tumors of the neck; less favorable were the resections of larger joints, and the amputations of the mamma with removal of the axillary glands (75 per cent. healed without suppuration); but of all the operations the amputations show the least favorable results, hardly one-half having united primarily. The treatment of the wounds being the same in all cases, these different results were certainly due to other causes than the dressing—to the anatomical condition of the wound.

To obtain primary union in wounds it is absolutely necessary that no spaces or cavities be formed, and that the parts tolerate a compressing dressing without danger of necrosis.

Amputation-wounds do not come up to these requirements, as the muscles retract in different degrees, according to the distance between the cut surface and the origin of the muscle, leaving spaces which are not closed up when the flaps are united, but afterwards fill with blood and the secretions of the wound; nor can pressure be applied to bring the parts into apposition, as it would surely cause necrosis of the flaps, and often of the margin of the bone; besides this, especially in old, debilitated or anæmic patients, there is a great risk of getting necrosis of the edges of the flaps in all amputations except the circular-flap method.

To obviate and remedy these defects, *i. e.*, to place the wound in a condition most favorable for attaing primary union, Neuber has devised and put into practice a new method of amputating, which consists in making shorter skin flaps, covering the margin of the bone with flaps of periosteum, sewing the muscles together, bringing up the retracted muscles to the level of the wound and keeping them there by means of sutures.

By this method the end of the bone is covered by three layers of tissue, united by three sets of sutures: first the periosteum is sewed together over the bone, over this the muscles, and then the skin-flaps. This prevents the formation of cavities; it forms the soft parts into a cushion between the bone and the flaps, thereby preventing the necrosis of either; permits the use of a compressing dressing, which prevents the accumulation of secretions; and lastly the flaps being short are better nourished and necrosis of the margin need not be feared.

In the following I shall explain the mode of procedure in an amputation of the thigh:

1. After getting the transverse diameter of the thigh, three points (*a*, *b*, *c*,) are marked on each side: *a* is the point at which the bone is to be divided; *c* is placed one-half the length of the diameter below *a*, and is the summit of the con-

vexity of each of the side-flaps; *b* is where the muscles are afterwards cut through, and is one-third the diameter below *a*.

2. These points being marked on both sides of the thigh, two lateral slightly convex skin-flaps are made, beginning on the anterior surface and ending posteriorly, the summit of the convex at *c*, the base of the flaps on the line of *b*. The skin and subcutaneous tissue is dissected back to *b*, and the flap turned back.

3. Circular cut through muscles and periosteum at *b*, close to the bases of the everted flaps.

4. The periosteum is scraped back from *b* to *a*. If necessary to facilitate this, an incision may be made through the muscles and periosteum on the posterior surface of the bone. If possible the incision should be made at some intermuscular septum.

5. These musculo-periosteal flaps are held back and protected while the femur is sawed through at *a*.

6. Ligation of all bleeding points. Disinfection of the wound.

7. The periosteum is drawn over the end of the bone and sewed together.

8. The muscles and fascia of either side are drawn together over the periosteum, retained there and united by five or six sutures; before this a decalcined bone drain is placed in the back of the wound, leading up to the bone.

9. Flaps united. Re-disinfection of the wound with the corrosive sublimate solution (1 : 1000). Permanent dressing. This method of uniting the muscles over the bone does very well for amputations of the thigh, arm, and the upper half of the forearm and leg, but for amputations of the lower half of leg and forearm the surface of cut bones and tendons is so great it does not admit of this procedure. In this case, after sewing the periosteum flaps, you pull down the retracted muscles, fasten them there, and thus equalize the surface of the wound to prevent the formation of cavities.

All amputations in Esmarch's Clinic since April, 1883, eighteen in number, were made in the above manner. Of these eighteen amputations, fourteen were uncomplicated and four complicated cases.

I. UNCOMPLICATED CASES.

	No. of cases.	Manner of healing.		Average duration of treatment.
		(*a*) Normal.	(*b*) With suppuration.	
Amputation of thigh	3	3 primary union		28 days.
" " leg, upper half	1	1 " "		35 "
" " " lower half	5	5 " "		28.5 "
" " arm	1	1 " "		18 "
" " forearm, lower half	2	1 " "	1	22 "
Re-amputation of leg	2	2 " "		17 "
	14	13	1	

The duration of treatment was reckoned from the time of amputating until the wound had definitely healed.

Of these fourteen cases, thirteen healed primarily and under one dressing; in only one case was there suppuration, which protracted the healing for a few days. No necrosis in any of the cases.

II. COMPLICATED CASES.

	No. of cases.	Result.	
		(*a*) Nearly healed, still under treatment.	(*b*) Died.
Amputation of thigh	2	. . . .	2
Amputation of leg, upper half	2	2	. . . .
	4	2	2

Of four patients, two died. One patient, fifty-three years old, amputated for caries of the femur, died four hours after the operation; the other, sixty-four years old, operated for progressive senile gangrene, died of septicæmia four days after the operation.

The above results are extraordinarily favorable and speak better than words can of the eminent success of this method of amputating, which certainly merits trial by every surgeon.

Amnesic Aphasia Resulting from Railroad Accident.

Dr. FREDERICK COLE reports this case in the *Peoria Med. Monthly*, January, 1884:

I was called, on the 18th of April, 1882, to see James Keegan, an employee of the Wabash, St. Louis and Pacific Railway, who had been injured on the previous day in attempting to couple an engine to a loaded car of lumber. It was supposed he had been struck by the ends of the lumber, as it projected over the car. He was immediately picked up, after being struck, but, as alleged, not wholly in an unconscious condition, carried to his home in Weston, some seven or eight miles distant from where the accident occurred.

He immediately passed into an unconscious state, and could not be aroused, though all the usual means were employed for that purpose, among which was the strong current from the galvanic battery.

I was called some thirty-six hours after the accident, and found him in a semicomatose condition. There were no marks of external violence, and, as far as could be discovered, no paralysis. With great effort we managed to get him to swallow egg-nog. His pulse seemed feeble and about 65. His respiration 16. In four or five days, under a strong nourishing diet, he manifested a slight degree of consciousness, which was indicated by his shaking his head when asked to swap watches. However, under a continued administration of a nourishing diet and friction of body, he gradually gained enough to say *yes* and *no*. There was at no time any special signs of meningitis or localized lesion of the brain; nor could any marks be found on his body indicating any injury to the spine or vital organs.

In a few weeks he gained enough to stand upon his feet, and with assistance walk a short distance. There was now noticed a hesitancy in his speech; in fact, he could only repeat short words, principally monosyllables. There was a defect in his articulation, though his mind seemed clear; knew all his old friends, and the number of trains as they passed the house.

He had been always a most excellent railroad man, and for this reason the company took much interest in him, not only in providing for his wants, but in giving him some preferred position at an early day, allowing him to run on a passenger train with the only task to call out the stations as the train approached them. Though he had run on the road since a boy (he being now about twenty-five), and was as familiar with the stations as he was with his fingers, yet when the time came he could not think of the name of the station. To his great chagrin, he had to leave the train. And this, I believe, is his condition up to the present time (December, 1883), over one year and a half after the injury.

This case was especially interesting to me because it seemed a typical case of *amnesic aphasia.*

But this case of aphasia had some peculiarities not reconcilable with anatomical observations of Dr. Hughlings Jackson, who enlarged on the observations of M. Dax and M. Broca. We believe it was M. Bouilland who made the nice distinction, with great care, between recollection of words and the power of producing distinct sounds for their expression. M. Broca,* in his celebrated paper, announced, and some have regarded it as a law, that the seat of the faculty of articulate language was in the second, and especially in the third, frontal convolution of the left anterior lobe of the brain, and when this is injured aphasia is the result. But there were no marks indicating injury of this part of the skull, nor had we reason to believe the middle cerebral artery had been plugged by an embolus derived from valvular disease of the heart, for auscultation showed no disease of that organ. The study of this case has prompted us to examine the literature on this subject, and perhaps the best *resumé* of it may be found in Ziemssen's Cyclopædia, Vol. xiv.

But we fail to find any recorded case which might be regarded a parallel case to Keegan's; nor can we entirely coincide with the theories of Broca and Hughlings Jackson as to the localized injury to the skull or plugging of the middle cerebral artery necessary to produce amnesic aphasia, when it is produced from mechanical causes.

Were I to venture an opinion as to the injury which Keegan received, and which resulted in aphasia, I would ascribe it to a profound shock to the whole nervous system, but especially to the left hemisphere of the brain; and that the undamaged right hemisphere took on the functions of the left, with the important exception of the convolutions near the corpus striatum of the left hemisphere. The profound impression made on this convolution by the shock, I have no doubt, left its impress, and the undamaged convolution of the right hemisphere could not take on the function of the articulate speech, or compensate for the loss of the memory of words.

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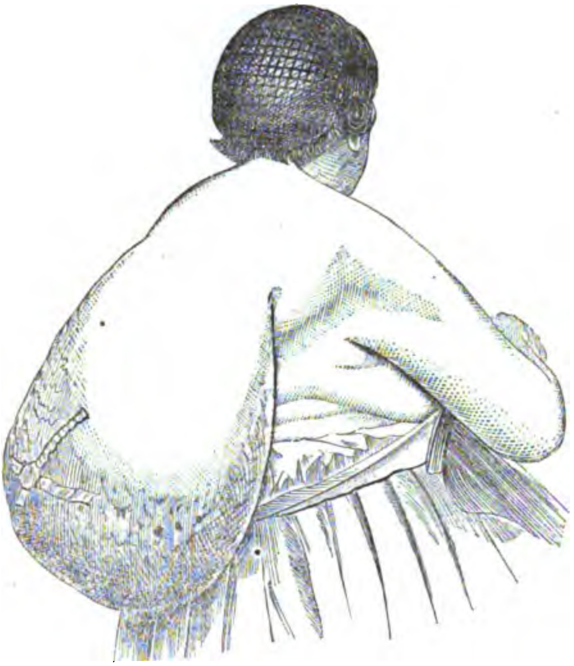
* I do not think that the profession ought to entirely ignore the investigations of Gall and Spurzheim, viz.: "That the brain is the organ of all the faculties, propensities, and sentiments; that different parts of the brain are appropriated to particular mental faculties of the human mind." And while I could never adopt the whole system of "bump-ology," yet it must be confessed that time and more critical research confirm many of the observations of Gall as promulgated in 1796, and more fully in 1810, in his great work, entitled "The Anatomy and Physiology of the Nervous System, and of the Brain in Particular."

Large Dorsal Tumor Removed to Relieve Dyspnœa and Cardiac Distress.

Dr. J. Ward Cousins reports this case in the *Brit. Med. Jour.*, February 2, 1884:

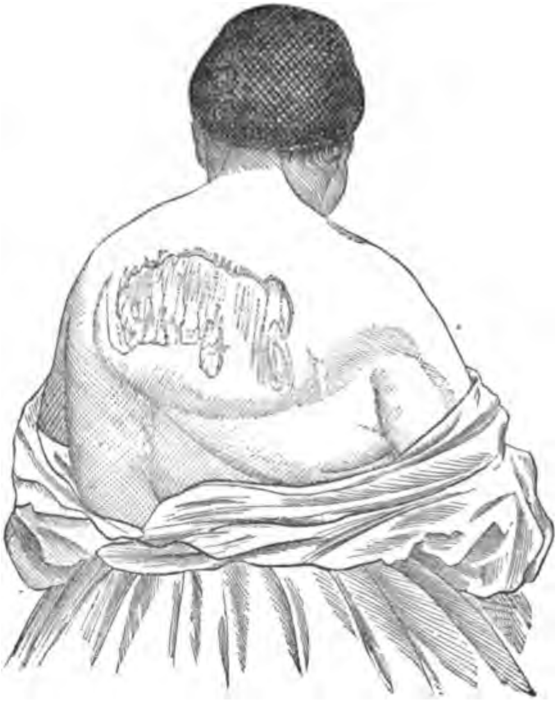
Mary Ann N., widow, aged 65, came under treatment on March 1, 1883. She had a large dorsal tumor, which had been growing fifteen years; and, for four years, it had been rapidly increasing in size. The circumference at the base was 28 inches. She stated that she had suffered from cough and shortness of breath ten years, and occasionally from severe bronchitis. On admission into the Royal Portsmouth Hospital, she complained of the weight of the tumor, and great distress during movement. The chest-symptoms were very severe. At night, she slept in the sitting posture. Her face was livid, puffed, and marked with prominent venous markings. The act of expectorating was attended with prolonged distress. On examination, loud bronchial sounds were heard at all parts of the chest, with some crepitation in the dorsal regions. The cardiac impulse was weak, and the second sound loudly accentuated. The pulse 96, soft, compressible, and irregular. The urine was normal, and free from albumen. An attempt was made to sling the tumor, but it was abandoned, as it caused pain and respiratory trouble.



An operation was performed on March 15th. The tumor was placed on a wooden tray, and this was supported by ropes secured to the roof of the theatre. It was an ordinary fatty growth, intersected with very thick fibrous bands, and covered with dilated veins, which were very varicose about the base. The weight of the mass was nearly thirty pounds.

For some days after the operation, the temperature was high, and the chest-symptoms very urgent, but the patient gradually made a complete recovery, and and the wound soundly healed.

A few days since, she came again to the hospital to report progress. Her appearance was much improved, and she could walk several miles, and go upstairs without discomfort. The superficial vessels were much less distinct, and the skin looked healthy. The respiratory and cardiac sounds were normal, and the pulse was full and regular.



REMARKS.—The complete relief of all the chest-symptoms is the main point of interest in the case. The condition of the patient before the operation was certainly very critical. The weight of the tumor embarrassed the respiration, and prevented due expansion of the chest. Cardiac failure was, however, the great source of danger. The heart was greatly taxed in sustaining the circulation, and the serious retardation of the venous current was evident from the distension of the veins, and the chronic obstruction of the pulmonary system. The absence of marked valvular insufficiency and renal complication rendered the result of operative interference fairly favorable. Ether was carefully administered during the operation, and repeated hypodermic injections were employed to relieve the urgent symptoms of cardiac failure.

Strangulated Hernia.

Quite a lengthy article in the *Med. Annals*, Dec., 1883, by Dr. N. L. SNOW, we thus summarize:

The number of operations was nine; of these, six were females, all with femoral hernia, and three males with inguinal. The recoveries were three, two females and one male. Of the six deaths (I cannot state positively, as all were at such a distance that I did not see them after the operation, and no post-mortems were held) I am of the opinion, based on such history as I could get, that five died from gangrene and peritonitis as a result, and one from shock, prostration and the surroundings. If we omit the two cases in which the bowel had sloughed and which could not be returned (and which perhaps it would be proper to do), it gives us three recoveries in seven cases—almost one-half. And it must be remembered that these were all in the country, where there must be necessarily more or less delay and loss of time prior to the operation.

In case eight the hernia was reduced without opening the sac. If this can be done, it gives our patient a much more favorable prognosis. There is not the risk of peritonitis; the operation is perfectly antiseptic, as the sac and its contents have not been exposed to the air or the hands of the operator, and any blood or fluids have been kept safely outside. It should be clear in our minds that the intestine and omentum are in a proper condition to return, and that the adhesions are not of such a nature as will leave any doubt of the perfect reduction or of our keeping the parts reduced. The strangulation is more often at the neck of the sac of peritoneum than at the aponeurotic ring, and the same danger of reducing a rupture *en masse* before an operation must be guarded against now, being careful that the constriction about the intestine is free, otherwise we have our strangulated hernia merely inside instead of outside the abdominal cavity.

The length of time before gangrene takes place after symptoms of strangulation can hardly be determined by my cases. The shortest time in which the operation was performed was thirty hours, and the longest one week; circulation was somewhat impaired in all of them. This would depend also upon the portion of intestine or omentum included, also the contents of the sac. There was no case in which the omentum alone was involved, and only one in which it formed a part. "Cohnheim classifies intestinal epithelium with other tissues exercising special functions, like the brain and kidneys, and says the time required to produce necrosis by interruption of the blood supply is within two hours." In cases of mortification it is difficult to fix the time at which the circulation is entirely cut off; and, in addition to the impairment of circulation by the constriction at the ring, there is more or less lessening of the calibre of the blood vessels from the distention by fæces, gas and liquids. On the other hand, the life is prolonged by its being secluded from exposure to the air and being surrounded by living and well-nourished tissues. Another noticeable fact is that, with the exception of one, all of the patients were over fifty years of age. This would bear us out in the belief that they were so much more frequent in the aged, and the statement that one out of three of the males over sixty are afflicted with hernia.

In herniotomy, at this age, we are guided but very little by the muscles and different layers of tissues as taught in our anatomy. The duration of the hernia has so changed the relation of these parts, that they cannot be relied on, and in fact in the majority of cases cannot be definitely made out at all. Just before reaching the peritoneum we come to loose infiltrated cellular tissue, which is as much of a land-mark as can well be attested to. Aside from normal layers disappearing, abnormal ones are sometimes produced by the pressure of ill-fitting trusses, deposits of fat, ganglionic abscesses or the sloughing of a former omental hernia, as in the fourth case, which sometimes renders the dissection quite difficult to reach the sac. Again a number of forcible attempts by different parties at reduction—first the patient, second the family physician, consultant number one, then consultant number two—have caused the parts to become congested, infiltrated and sometimes ecchymosed. Desault truthfully says, "Think favorably of a hernia which has not been handled before operation."

The opening of the sac is the period of most interest to the operator, not only in his anxiety not to injure, but the appearance of the intestine is an indication of life or death to the patient. If reduction is decided proper, it is generally easy to divide the aponeurotic ring, and, if this is not sufficient, then the neck of the sac proper. The best guide or direction for this division is the index finger. Although it may not be done as quickly, it is done more safely, and we feel that we know just where our knife is, and the part it is cutting.

Again, the knife should be blunt pointed and dull of edge, so as to get more of a sawing or tearing open of the ring, and this in a number of places, instead of using a sharp knife and a single incision, otherwise the band may give way with a sudden jerk, and we find that we have a larger opening than was intended, and more of the peritoneum incised than was necessary, or perhaps some important blood vessel implicated.

If gangrene has rendered the return of the intestine impracticable and impossible, an artificial anus is to be hoped for, and the adhesions about the neck must be carefully broken up to facilitate this as much as possible. Cases are recorded of incising the gangrenous and reuniting the healthy portions. This did not seem practical in any of my cases.

In this operation there is not as much danger of injuring the blood vessels as might be supposed. I do not remember to have been compelled to tie a single artery in the nine operations.

Again, there should be as little handling as possible of the bowels or incised parts, and none but the operator should pass his finger into the abdominal cavity. The fact of two or three of the associates, or perhaps assistants convincing themselves of the satisfactory return by a digital examination, cannot but prejudice the safety of the patient.

The dangers of strangulated hernia cannot be too vividly portrayed to the practitioner, nor the importance of some well-defined course of action, should an emergency arise, too thoroughly impressed. The delay and consequent death of the patient often occurs from the waste of valuable time in sending for a second, third and even fourth consultant. This apparent strengthening of the case we all know to be most fallacious, and thus hour after hour and at times day after day goes by, until the operator is called and the scalpel used, but too late. Early operations diminish the mortality rate. Mr. Hey well says: "I have often had occasion to lament the performance of an operation too late, but never too early."

Treatment of Gleet and Gonorrhœal Strictures by Otis's Method.

Before the Essex North District Med. Soc. (*Boston M. and S. Jour.*, February 21, 1884), Dr. G. M. Garland, of Boston, gave an interesting discourse on this subject, illustrating his remarks by citing results from his own private and hospital practice. Formerly it was taught that strictures were the consequence of prolonged gonorrhœal irritation. Otis, of New York, has revolutionized the theory of the location of strictures. There are certain places in the urethra with physiological narrowing, which back up the secretion, so causing irritation, inflammation, and granulation of the mucous membrane and inflammatory submucous thickening and stricture. The first of these is from one-half to one inch from the meatus. A case having a slight stricture here (24 French, while the urethra behind was 34) was operated on three weeks ago, and the gleet is now entirely well.

Otis shows that the ratio between the size of the urethra and circumference of the flaccid penis is physiologically constant. A penis with a circumference of three inches should admit a sound of No. 30 French. One of four inches a No. 40 French. No. 28 French is frequently used, after cutting slight strictures, with no pain at all. Any stiff instrument below 15 in size is dangerous to use in these cases, and a soft catheter should be employed rather than a stiff one.

In searching for strictures a large sound stretches them, and gives no satisfactory evidence. Hence a full set of acorn bulbs, or one of Otis's urethrometers should be used, which has a gauge for the size of its bulb from 12 French upwards. Pass this instrument deep into the urethra, and distend till it causes discomfort, then begin to draw back easily, without force, till it brings up at a stricture. Now read off its distance from the meatus, and relax the bulb till it passes through, noting the size of the stricture by the reading of the gauge. Then distend again, and repeat as before. In one case five strictures were distinctly located between the ligament and the meatus. There had been here a gleet of twenty years' standing. These strictures vary from 19 to 28, or even 35 French. The next step is to cut them. Otis's method can limit the cutting with a scientific exactness. All other methods trust more to luck.

In divulsion there is no control or knowledge of the amount of injury. The urethra is made tense by Otis's instrument, and cuts of exact locality, length, and depth are made. The instrument is removed and bulbs passed, and if any trace of stricture remains the operation is repeated.

Otis, now, never does the operation in the membranous portion of the urethra. Here slow, careful stretching is alone allowable.

One case of Dr. Garland's had penile strictures allowing only a No. 9 bulb. These were cut up to No. 34, and then the membranous portion was still closed, and it was impossible to get into the bladder. But after healing from the operation, a No. 12 was passed, and by two sittings this was increased to No. 18 French, and the patient was back at work.

If membranous strictures cannot be cured by slow dilatation, the only resort is perineal section. The preparation for the operation should include dosing with liquor potassæ for a day before, and the urine should be kept alkaline through the healing stage.

As a rule, give quinine; keep the bowels empty. Ether is advisable for deeper strictures, but not for those at meatus.

As a rule, do not operate till the acute inflammation has subsided, though this need not deter in urgent cases. Cut on the upper surface of the urethra in deep strictures, but below in those near the meatus. Let the patient alone for forty-eight hours, without catheter, as urine will be passed without harm.

An attendant ought to be by for twenty-four hours, as there is danger of secondary hæmorrhage, especially if an erection occurs during sleep. Especially is this to be feared in about eight or ten hours after the operation. In forty-eight hours pass the catheter every other day, and distend gradually with the sound, until by the eighth or ninth day the passage should be fully distended, as it heals quickly about this time, and a serious contraction may otherwise occur. Generally keep the patient in bed a week. If the cuts open the urethra to No. 36 French, it would be expected to heal, allowing passage of No. 33.

While the operation is simple, it still necessitates great care. The danger from hæmorrhage is slight, as it is always easily controlled. Some patients lost only three or four drops of blood. A temperature above 100° F. is rare.

Excision of a Portion of the Popliteal Nerve for Gunshot Wound, with Nerve-Suture.

Dr. THOMAS G. MORTON reports this case in the *Med. Times:* M. C., aged 23, referred to me by Dr. B. C. Gulden, of Minersville, on the 12th of November, 1880, was admitted into my wards at the Pennsylvania Hospital, on account of partial palsy of the limb and intense pain, resulting from a pistol-ball wound of the thigh and popliteal region.

The accident occurred on the 15th of September; the ball, which was one-thirty-second of an inch in diameter, entered the right thigh, striking the edge of the biceps tendon about four inches above the condyles; it passed underneath and across the popliteal region to the inner side, and lodged immediately under the skin, close to the head of the tibia. There was no hemorrhage, and the wound closed without suppuration. Immediately after the injury there was more or less palsy of the limb, with a marked tingling sensation, which soon changed in character to that of a burning pain, extending from the place of injury to the extremity of the limb, but especially severe upon the dorsum of the foot and ankle; shooting pain now and then extended to the hip; any manipulation of the skin or movement of the limb caused suffering of the most acute character. The atrophy of the limb was not marked, but the injured limb showed a difference of rather more than half an inch as compared with the left in calf-measurement. The surface temperature of the injured limb at the knee was 88° F., or 4° lower than that of the other limb, while the temperature of the skin of the foot of the injured limb was 15° higher than that of the opposite side. Treatment prior to and after admission had not given the slightest relief, and the only measure of comfort was obtained by constantly sponging the limb, or having it completely immersed in water. The use of morphia by hypodermic injections, even in large doses, produced but little alleviation of the suffering.

From the course of the ball it seemed probable that the external popliteal nerve was either wounded or divided. The case seemed a fair one for an exploration with a view to an excision of the injured portion of the nerve. On November 20, I cut down upon the right biceps tendon, expecting to find the external popliteal nerve in its usual place; but, after a fruitless search, opened the popliteal space by another incision, and then found the external and internal branches had continued on together into the popliteal space. On passing my finger along the course of the combined trunk, I discovered an indurated mass surrounding the nerves, evidently the result of the passage of the ball.

On elevating and examining the nerve-trunks, I found that the external popliteal had been completely severed, and that the enlargement was principally in the injured internal trunk, through which the ball had evidently passed. I then excised an inch of the nerve, removing all the injured portion. After flexing the leg, the ends of the sectioned nerves were brought into close approximation with animal carbolized ligature, and the wounds were united with silver sutures. No suppuration ensued, and the wounds united at once.

From the time of the operation the patient was free of all pain, and the result was in every respect most satisfactory. The limb was kept flexed and at rest for five weeks, in order more reasonably to assure complete nerve-union. Gradual extension was then made without causing any pain or inconvenience. On the 8th of March, 1881, the patient was discharged cured.

Dr. Morris Longstreth, the hospital pathologist, wrote me as follows concerning the portion removed:

"The specimen shows about one inch of the length of the nerve. The sheath is much thickened, especially at the central part of the specimen, and the thickening is found to involve not only the peripheral parts of the sheath, but also the septum separating the two divisions or branches of the nerve-trunk. It is found, on examining the proximal end of the excised portion, that both divisions —the internal and external popliteal branches—are present in the mass, and that they present normal conditions as to their size; but on examining the distal end of the specimen it is seen that the external division or branch is considerably smaller at its point of exit from the mass than at the upper or entrance point. It is impossible to say whether this change of size is due to cicatricial contraction of new tissue deposited as a result of the wound, or to actual destruction of a portion of the nerve by the ball itself. It is quite evident that the nerve had been divided by the ball and reunion taken place, and that the specimen comes from the site of the bullet-track."

Dr. Gulden wrote from Minersville, under date of August 4, 1883, that he had seen M. C. within a few days, and that he would send him to Philadelphia.

On October 20, 1883, M. C. was again admitted into the hospital. The limb was found to be well nourished; the calf measurement showed a difference of an inch and a quarter as compared with the sound limb; a small ulcer existed on the sole of the foot, and one upon the great toe. About nine months after leaving the hospital he had gone into the mines and worked for eight months, during which time he thought he contracted frost-bite, and it was at this time the ulcers formed. Upon re-admission, he was able to flex and extend the limb, but had but very slight power over the ankle, and none of the toes; the skin of the entire limb was sensitive, but sensation was rather diminished on the sole of the foot. With his brace he could walk any distance. Since the operation he had never had any pain in the limb, and the only inconvenience results from muscular feebleness.

Fractures of the Sternum and First Costal Cartilages.

Before the Pathological Society of London, (*Brit. Med. Jour.*, March 8, 1884, Mr. ARBUTHNOT LANE read a paper on one way in which the sternum might be fractured. M. Maisonneuve had attributed fracture of the sternum to force transmitted from the shoulder to the sternum by the clavicle; whereas Mr. Rivington had contended that the action of the clavicle was in no way essential to fracture of the sternum, and regarded the first two ribs and cartilages as the means by which was transmitted to the sternum one of the forces which fractured or dislocated it, the other being conveyed along the lower ribs. He showed that, as the inner end of the clavicle was fixed by ligaments, if vertical pressure were applied to its outer extremity, a much greater force was exerted on the anterior extremity of the first rib by the shaft of the clavicle in contact. Mr. Lane next stated that the first cartilage was one inch and a half deep at its attachment to the manubrium, while the second cartilage was only five-eighths of an inch; so that, when one cartilage was depressed by the clavicle, it tended to cause the manubrium to rotate around an antero-posterior axis, and also affected the opposite cartilage. If the pressure exerted were very great, one or both first costal cartilages might be broken, together with the sternum, without there being any displacement of fragments: or only one cartilage might be broken. If the cartilages were very elastic, and the sternum rigid, it alone might yield, as in an experiment he had made on the dead body. In this case, the manubrium was ossified to the gladiolus. A heavy blow was struck on the outer extremity of the clavicle (carefully padded, in order that it might not be fractured); a fracture of the sternum at a point which corresponded to the junction of the first and second pieces resulted, the fragments not having been displaced. In other cases, the ligaments binding down the inner extremity of the clavicle might give way, and dislocation upwards ensue. As exemplifying this last result, he showed a specimen from the museum of Guy's Hospital, in which the inner end of the clavicle had been dislocated upwards, and the ossified first costal cartilage was fractured on the same side. Its line of fracture was irregular, and not vertical, as in fracture of the ordinary elastic cartilage. The sternum was not fractured. Mr. Lane showed a specimen similar to one which he had shown at the Society last year. The first cartilages and sternum had sustained the same fractures, no other bones in the body showing any sign of fracture.

A case recorded by Dr. Bennett (*Dublin Quarterly Journal*) served also to illustrate his view. A heavy weight fell on a man, fracturing many bones. That which had fallen on the clavicles had fractured both first cartilages and the sternum at the junction of the first and second pieces. He believed that fracture of the sternum or cartilages, or both, was not so very uncommon as the scanty literature on the subject would suggest; also that Maisonneuve had no clear idea how the clavicle transmitted force to the sternum, which it did only indirectly by pressure on the first rib and cartilage. M. Maisonneuve apparently arrived at this conclusion by observing the frequent concomitance of fracture of the scapula and clavicle with that of the sternum. The sternum and cartilages, when fractured by this means, would present very little sign during life, or at a period long after the injury, owing to the fractures remaining in apposition. It was very difficult to decide, in many ossified first cartilages, whether they had been fractured or not, as they frequently presented a very irregular outline, owing to abundant deposit of new bone, which might either be the result of fracture, or thrown up to support the joint formed in this situation. Mr. Roger Williams thought that Mr. Lane had hardly assigned sufficient importance to the part played by the rhomboid ligament, in the transmission of force to the clavicle.—Mr. C. B. Lockwood referred to one specimen shown by Mr. Lane, as an example of fracture of the sternum and cartilages of the first ribs, and remarked that no history of the case had been obtainable. If the heaping up of bone were relied on as evidence of injury, it must be noted that this heaping up was quite symmetrical; and, further, that the sterno-clavicular articulations showed distinct evidences of inflammation. Mr. Lockwood believed that he had frequently seen similar appearances, and, with Mr. Bruce Clarke's assistance, a number of first ribs and cartilages had been collected from the dissecting-room of St. Bartholomew's Hospital. They bore, he thought, a striking resemblance to the specimens referred by Mr. Lane to fracture of the rib-cartilage. Whatever might be the cause of the inflammation in these cases, it seemed improbable that it was due to fracture. Mr. Bruce Clarke coincided with the criticism advanced by Mr. Lockwood, but Mr. Arbuthnot Lane stated in reply that he was familiar with the condition referred to, but that it was quite distinct from that described in his paper.

Antiseptic Circumcision.

The *Med. Age*, January 25, 1884, says: While the amputation of the foreskin as practiced by the Hebrews, is held to be a religious rite rather than a sanitary precaution, doubtless that astute old law-giver Moses, had prominently before him the great benefit which it would exert among the "chosen people" as a prophylactic against venereal disease. We believe it to be a fact that such disease is comparatively rare among the circumcised. It is only occasionally that the debauchery of the Jew is followed by the reminders which admonish the gentile that "the way of the transgressor is hard." Of course the glans penis entirely innocent of preputial covering is not absolutely proof against the ravages of the syphilis microbe, nor is the urethra of the organ thus abbreviated absolutely secure against the entrance of gonococci. Of this fact not a few illustrations might be selected from among the modern Israelites in whom there is guile, and some syphilographers, with that irreverence which science is said to foster, have pointed to the biblical description of the sufferings of some of the patriarchs, in support of their statement that syphilis was not unknown even among ancients who, barring a little lasciviousness, are very worthy exemplars.

But to return to Moses. Moses was a sanitarian who, when his opportunities are considered, was successful to a degree which has commanded the admiration of every succeeding age, even down to the present. But Moses knew nothing of Listerism. He was born too soon for this; and more's the pity, for had the antiseptic precautions of Listerism been promulgated under the authority of Moses, the deadly micrococci would, perhaps, long centuries since, have been stamped out. In that case what a millenium would we now be enjoying!

The neglect of antiseptic precautions in the performance of the rite of circumcision has been found to be followed by its natural consequences, and these consequences have of late years become so grave as to have aroused the attention of the Jewish Supreme Council. This body (whether inspired or not as Moses was, the record does not proclaim) have amended the original plan of circumcising to make it conform with the requirements of modern antiseptic surgery, and have promulgated the following rules:

"1. The knife must be polished and the forceps properly purified. 2. The quadrangular pillow employed, as well as the sausage-shaped ring, must be freshly renewed, and before every circumcision, covered with new gutta-percha tissue or new sarsanet. 3. The operator immediately before the operation, must carefully wash his hands with soap, and cleanse the nails with a good hair brush, taking peculiar care that no dirt be allowed to remain under the nails, more especially under those of the thumbs. The hands must, in addition, be washed in a five per cent. solution of carbolic acid. The operator is no longer to suck the wound, nor irrigate it with wine ejected from the mouth. Instead of this, the blood is to be removed by gently wiping the wound with pledgets of purified boracic lint dipped in wine. The wound is to be closed by being enveloped in a strip of ten per cent. boracic lint. The further removal of fluids and blood-clots is only to be effected by means of a new sponge previously soaked in a five per cent. carbolized solution or by salicylized lint. A medical man must be immediately called in if the hæmorrhage be considerable, and cannot be at once stopped, or if it be from an artery. Such authorized persons are forbidden to perform the rite, if suffering from any infectious disease, and until complete recovery has taken place."

We can't help thinking how much better and more euphonious would these amendments have been, had they been given forth in biblical phraseology!

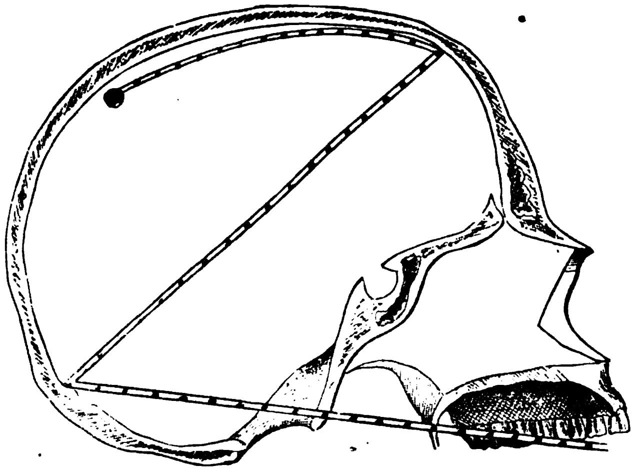
Suicide by Pistol Shot Without External Wound.

In the *Edinburgh Med. Jour.*, February, 1884, Dr. Frank Ogston says: About three years ago I got an order to view the body of a man who, it was said, had shot himself with a navy revolver in a wood near Aberdeen. A careful examination of the body, however, gave no indication that such was the case, as neither wound of entrance nor exit was discoverable, the external appearances being as follows:

Rigor mortis well developed. The front of the body pale; the back parts purplish, and purple (post-mortem) discoloration at the root of the neck. The expression of the features calm. The pupils of the eyes normal in size. Two or three slight scratches at the upper part of the left side of the forehead; crusts of dried blood about the lower part of the face; and moist recent blood in the nostrils. The left hand smeared with dried blood. Both hands equally half closed. The penis semi-erect, with seminal fluid issuing from its orifice. The testes and scrotum retracted. Goose-skin on the outer aspects of the thighs.

As all this gave no indication of the cause of death, I ventured to exceed my remit, which was to make an external examination only, and proceeded to open the head and the cavity of the mouth, when the case was made plain by finding the following appearances, which are quoted from notes taken at the time:

The lips, externally as well as internally, quite uninjured. The whole of the interior of the mouth blackened. A blackened groove, a quarter of an inch in breadth and depth, ran along nearly the whole dorsum of the tongue. The velum palati perforated by a round hole, nearly a quarter of an inch in diameter, exactly in the central line and near its lower margin. The basilar process of the occipital bone presented a similar perforation just in front of the foramen magnum. The bullet had then traversed the medulla oblongata, and striking the inner side of the occipital protuberance, had glanced off and run through the brain from the left side of the base of the cerebellum, traversing the right lateral ventricle, and issuing from the cerebrum between the third and fourth right frontal convolutions; then, apparently its velocity almost spent, it had spun backwards over the suface of the brain, and was found in a mass of bruised and broken-down brain matter underneath the dura mater, over the fissure of Sylvius on the left side, near the superior longitudinal sinus.



Beyond the perforations above described, the bones of the skull showed no mark of the bullet, and were quite uninjured. The bullet was battered almost out of shape, but its base retained still enough of its original form to admit of its identification, as it nearly fitted into the copper capsule out of which it had been fired, which was found in the revolver.

The interrupted line in the illustration shows the track of the bullet.

Mineral Wool as a Dressing for Wounds.

In the *American Practitioner*, March, 1884, Dr. David Prince thus writes: Three qualities are desirable, viz.: (1) readiness to take up liquids; (2) capability of retaining them; (3) freedom from any irritant or poisonous property in themselves, or in what they may be contaminated with.

In a visit to the exhibition, in Chicago last June, of the appurtenances of railroads, my attention was attracted to mineral wool as a substance which might be utilized in the treatment of wounds.

On arriving home, I put the substance to the following test for its absorbent property: A column of the mineral wool, ten inches or twenty-five centimeters high, was supported on a pasteboard slightly inclined; another column of inferior grade of mineral wool having greater weight was arranged alongside of it; a similar column of absorbent cotton was arranged upon the same pasteboard. They were set in a bowl of diluted ink. The top of the column of the better grade was reached in thirty minutes, while the top of the inferior heavier grade was reached in thirty-three minutes. The rise of the ink in the absorbent cotton was very slow, and at the end of two days it had reached the height of four centimeters (one and nine-sixteenths of an inch).

A column of patent lint was afterward tested, and in twenty-four hours the ink had only ascended thirteen millimeters. (Millimeter equals five-eighths of an inch.)

This observation was made with Arnold's ink. When Thomas' ink was employed, the coloring matter was completely filtered out by the mineral wool, and only the colorless fluid ascended. In the observation with the mineral wool, the first two and a half centimeters was passed in five seconds.

I corresponded with N. D. A. Parrott, Esq., Superintendent of the United States Mineral Wool Company, No. 22 Cortlandt Street, New York, who gave me the following information in relation to this substance: "* * * In its composition, mineral wool is essentially a silicate of lime, magnesia, and alumina. Generally we have for treatment a neutral slag, or one in which the salica about equals the bases. There are also small percentages of potash and soda, but we are not positive in what combination they exist. A content of about four per cent. of sulphide of calcium renders the mineral wool unsuitable for use where contact may be had with weak acids, because, owing to the extreme tenuity of the fiber or thread, it is readily soluble in them, with the evolution of sulphuretted hydrogen."

The mineral wool has now had a trial of six months as an absorbent dressing for wounds, and it has met all that was expected. Its absorbent power exceeds any substance with which I am acquainted, and its cost makes it as cheap as any other material.

The poorer and heavier quality, weighing about twenty-four pounds to the cubic foot, costs one cent per pound. The better and lighter quality, weighing about fourteen pounds to the cubic foot, costs three cents per pound.

It is believed that the absorbent property of mineral wool needs only to be known to bring it into general use as a surgical dressing.

It can be baked before using, to drive off any suspected gaseous contamination, and it can be made the receptacle of any antiseptic substances. It has no long fibers by which it will hang together in much quantity, and it may for some uses require to be supported by cotton or tow or jute on its exterior, for convenience of application.

The Early Diagnosis of Pott's Disease.

Dr. C. E. Webster read a paper on this subject before the Chicago Medical Society, the following abstract of which we take from the *Weekly Medical Review*, March 22, 1884:

The author reviewed the general principles of diagnosis, insisting on the value of patience and minute observation, and illustrated these principles by the consideration of the early diagnosis of Pott's Disease.

The general diagnosis, he said, may be made at a glance—you see a sickly child cautious in his movements, stooping by flexing the legs, but carries the body erect and steady as though the spine were made of glass and he was afraid of breaking it. Modification of these symptoms depends on the age of the patient and the variety of the disease.

For the exact diagnosis, a history of the case, an inspection and physical examination, are necessary. A prodromal period, several months in duration, may occur. The patient is indifferent to his ordinary amusements and exhibits an unnatural fretfulness. He may become awkward in his movements, stumbling in his gait, or assume unlikely attitudes. There may be constitutional symptoms referable to the nervous system, suggestive of paralysis. Pain is generally located anywhere rather than at the seat of the disease, and many patients are entirely free from it. When it occurs it may be constant if local, intermittent if remote from the spine, and be increased by fatigue, or sudden jar. Acute pain is suggestive of a suppurative inflammation, while a dull ache is more characteristic of dry caries. The location of the pain indicates the location of the disease. If thoracic, the disease is cervical; if in the abdomen and lower part of the thorax, the disease is dorsal; while if through the thighs, the disease is lumbar.

The patient should be stripped and inspected. Flexion of the spine is avoided and a constant effort made by the patient to support himself. He leans upon the furniture; rests his hands on his thighs; or lies across some object. His movements are constrained in order to avoid jars. He shuffles in his gait. From reflex muscular spasm there may be a partial flexure of the thighs, and a local suffering in the portion of the spine affected. Torticollis may occur. The respiration may be grunting in character, with limited motion in some of the ribs. There may be a flattening of the normal curves of the spine. There may be a slight lateral angle as in the line of the spinal processes at the diseased part.

The physical examination may be conducted as follows: Let the patient jump down from a slight elevation. The resulting concussion may evoke a cry of pain, a slight confusion of ideas, the child looking surprised and may fall; a pressure may be made on the head or shoulders, also evoking a cry and muscular spasm; both these, however, are dangerous experiments. If with the patient standing erect, the palm of the hand be placed against the suspected region and then the spine bent in various directions, any local stiffening can be detected, the neighboring healthy parts being felt to move. If the patient has pain of any sort, impeded respiration, or any uncomfortable sensation, lay him across the knees on a table, or place him in a spinal swing and make four gentle extensions: observe if his symptoms are relieved, if he gives a sigh of relief and breathes freely; observe also, if by pressing the diseased bones more closely together the symptoms are aggravated. If such be the case the diagnosis is fully established, and a plan of treatment accordingly adopted.

Trephining of the Skull for Epilepsy with Delusions.

Dr. Frank Warner thus writes in the *Cinn. Lan. and Clinic*, March 22, 1882: Four years before his application to us for treatment for epilepsy, John W—— had fallen from a scaffold used by brick masons, of which class of mechanics he was one; and, as he struck below, the occipital bone was penetrated by a nail which was protruding through a board. Previous to this time he had been free from any unpleasant cerebral symptoms. A short time afterward he became affected with epilepsy, pain in the head, over the seat of the fracture, which was just to left of the mesial line, in the occipital bone, and an inch below the articulation of this bone with the parietal; and after a while developed peculiar nervous symptoms, becoming irritable, easily excited, and manifesting occasional delusions. At first all of these symptoms were mild, the epileptic attacks repeating themselves not oftener than once a month, and then, perhaps, one slight convulsion ending the manifestation of the disorder. In the course of the first two years little change was manifested, but gradually the epileptic seizures became more frequent; and, instead of one or two convulsions ending the attack, three to six would follow in quick succession.

The other most prominent cerebral symptom was the occasional delusions which took possession of the patient, and they were of rather an ugly type; for the patient, imagining persons designing evil things against him, would frequently protect himself by carrying about dangerous implements.

Finally an operation was performed, aimed to relieve these head symptoms. A V-shaped incision was made over the point where the nail had entered the skull, and the flap laid back, and three buttons of bone were in succession removed by the trephine, the reason for boring out more than one being that fragments from the inner table could be felt, which we thought proper to remove.

The pressure upon the brain from the depressed bone was very slight, but the ragged edges were sufficient to keep up a continuous local meningeal inflammation, which to all appearances was the cause of all these symptoms.

The patient made a rapid recovery from the operation, and for two or three weeks none of the old symptoms presented themselves; then a number of convulsions followed, with the characteristic delusions. These soon passed away, after which he made a rapid, complete and permanent cure; for four years have now passed since the operation, and the patient continues in perfect mental and physical health.

Chancre of Breasts—General Syphilis.

Dr. Randolph Winslow records this case in the *Maryland Med. Jour.*, February 16, 1884:

Annie S., aged 29, married, presented the following history: Her husband, having been from home for eight months, contracted syphilis during his absence. Upon his return, in addition to the usual marital embraces, he also suckled both breasts of the patient, which in due time became sore, for the relief of which she applied for treatment. Present condition: Each nipple is the seat of a solitary sore, which is red, glazed, often bleeding, discharging scantily sero-pus, indurated, and very painful when rubbed by her clothing. The sores are small, and more or less rounded, superficial, and not excavated. The axillary glands are indurated and enlarged, and a maculated eruption is appearing upon her thorax, arms and legs. There is no complaint of genital ulceration, and no examination is submitted to. The patient is anæmic and run down in health.

The treatment was very simple. Calomel was used locally upon the chancres, and internally one of the following pills was taken three times a day: Quin. sulph. gr. i; mass. hydrarg. gr. ii; ol. res. pip. nig. gr. ¼. These pills, sugar-coated, happened to be in stock in the drug-room, and were thought to fill the indications for tonic and specific treatment admirably. Five days later she reappeared, somewhat improved. In twelve days the chancres were nearly healed, and the eruption was fast disappearing. Only two pills were directed to be taken daily. In nineteen days the sores were healed, and the eruptions had disappeared, a little induration remaining on the nipple. One pill was ordered to be taken daily. She then disappeared from observation.

The interest in this case centres in the fact that the initial lesions of syphilis were found upon the nipples. Whilst it is not very rare for nurses to contract chancres upon their nipples from nursing syphilitic children, it is rather uncommon for it to be propagated in this manner by an ardent husband. The chancres must have been due to mucous patches or other lesions in the mouth of the man, who had probably recovered from the primary sore upon the lip, contracted from kissing or sucking a woman with syphilitic lesions upon the mouth or breast. Or he may have had a labial chancre from using the pipe of a man affected with syphilis. The fact that both breasts were involved showed that the infection of both must have been accomplished at very nearly the same time.

Hyposulphite of Soda and Carbolic Acid in Severe Contusions.

Dr. D. C. Hewson thus writes to the *Med. News*, Feb. 23, 1884: In 1869, I was summoned to see Frank Reeder, a laborer in a saw-mill, who had received a severe injury by a log carriage, weighing about three or four thousand pounds, falling on his wrist and hand, which were very badly lacerated, the belly of the flexor pollicis protruding through a slit in the skin about the size of a large nutmeg. He was suffering great agony. No bones were fractured. I used cold water dressing, and gave him one-fourth of a grain doses of morphia, without affording him ease. On the second day he was no better; fearing that gangrene would set in, I ordered the following mixture:

℞.—Sodæ hyposulphit.,	℥iv.
Acid. carbolic. crys.,	℥ss.
Glycerinæ,	℥ij.
Aquæ,	Cj.—M.

Sig.—To be used as a lotion, and to keep a cloth on the wrist and hand well saturated all the time.

In half an hour after using it, he was completely relieved, and passed a good night without any narcotic, and from this time he went on favorably without any trouble whatever, and in six weeks had full use of his hand.

In 1870, I was called to see a lad, about eight years old, with oblique fracture of the humerus above the condyles; it was almost a compound fracture, the point of humerus coming so near the surface, that it caused a blood-blister to be seen under the cuticle. He complained a good deal, and as I disliked to use narcotics in one so young, I gave a prescription for the same lotion, and it had just as happy an effect in this case as in the previous one.

As I live in a town where there are about fifteen hundred men, who gain their livelihood by working in saw-mills and lumber, there is scarcely a day in which I do not use this lotion, and have never been disappointed in its effects. I could give you case after case, but it would be mere repetition, so I think it useless.

I have used it in erysipelas, and in the eruptions caused by *Rhus tox.*, and the poison ivy, with good effect.

Habitual Dislocation of Ulnar Nerve-Myositis.

To the New York Surgical Society (meeting January 22, 1884), Dr. F. Lange presented a patient, a violinist, who, about a week ago, immediately after more than his usual amount of labor, began to suffer from a severe pain in the muscles of the right forearm, near the elbow-joint, and especially very near the internal condyle. The severe pain lasted only a short time, but the pain did not cease entirely; increased during the next two days, after repeated use of the arm, and on the third day was again so severe that every movement at the elbow-joint was impossible, and the patient suffered intensely. He was under medical treatment for a number of days, and he called to see Dr. Lange last Saturday, when it was noticed that there was some swelling corresponding to the muscles of the forearm, which took their origin from the internal epicondyle, and there was a very tender spot at the end of the ridge through which the ulnar nerve passes. Closer examination determined the existence of luxation of the ulnar nerve between the olecranon and the internal condyle at every attempt to flex the forearm. The nerve could be traced quite distinctly, and rolled freely under the thumb and finger, so that in a semiflexed position it could be dislocated around the protruding point of the epicondyle. The most painful point, however, was where the nerve entered the muscles. In the left arm also the ulnar nerve could be easily moved under the thumb and finger, and the question arose whether the difficulty in the right arm pertained primarily to the nerve or to the muscles. Dr. Lange thought, however, that the case was one of myositis, involving the muscles which have their origin in the region of the internal condyle, and thought perhaps also that the sheath of the nerve had become involved. There was no peripheral alterations pointing to a lesion of the nerve itself.

Syphilitic Calvaria.

To the Liverpool Medical Institution (*Brit. Med. Jour.*, March 8, 1884,) Dr. Alexander exhibited the calvaria of five cases of tertiary syphilis, who had suffered for from three to five years from suppuration of the cranial bones. In two specimens, from a male and a female, the disease consisted of caries of the external table of the vertical plate of the frontal bone. In two of these, a large perforation of the entire thickness of the bone had been produced, and through this hole the dura mater and the pulsations of the brain could be felt and seen during life. In the other, only small perforations had occurred. In the third case, from a male, the frontal bones were also principally and primarily affected ; but, in addition, the caries had extended over the whole of the outer table of the vault. In the fourth case, from a female, the frontal region was sound ; but about the half of both parietal bones were completely necrosed over the summit of the vault. Part of the necrosed bone had come away during life ; but a large part still remained in position, although nearly separated from the adjacent healthy bones. In the fifth case, a female, both the outer and inner tables of the entire vault had been removed, or were detached by superficial necrosis from the thick, heavy, sclerosed, worm-eaten, and half-dead diploë. This half-dead diploë was nearly separated all round from the base of the skull; and, had the patient lived a few months longer, it could have been lifted off. During the last few months of her life, pus oozed from every part of the scalp, and through the exposed bone. The adjacent healthy bones of all these calvaria were thick, and heavy, and compact.

Tenotomy of the Tensor Tympani.

In the *Weekly Medical Review*, January 12, 1884, a correspondent says:

When the writer was in Vienna eighteen months ago, having heard Weber-Liel speak in extravagant terms about the advantages to be derived from the tenotomy of the tensor tympani, he sought the opinion of Gruber on the same subject. With a significant look of want of confidence, he suggested the leaving of the section of the tensor tympani to others. We find, however, from the Annales des Maladies de L'Oreille, du Larynx, etc., that Gruber is now performing the same operation. He claims that it is indicated in cases of permanent contracture of the muscle, and claims that the success is almost certain when the inflation of air gives temporary relief. Dr. Weber-Liel claims that this operation will put an end to attacks of vertigo associated with affections of the ear, and acting on this suggestion Gruber operated on a case of fourteen years' standing, which had passed through various practitioners' hands. The patient, a woman, 26 years, had suffered from impairment of hearing for fourteen years; associated with this difficulty was a frequent noise in the ears, accompanied with severe headache. All these symptoms were worse in damp weather. For several months past there was added to the above troubles violent attacks of vertigo, the patient fearing she is about to fall down forwards. Section of the tensor tympani was effected and the noises ceased, the hearing improved; the vertigo was at first worse, but it improved gradually and was at length—the time is not given—completely relieved.

Chancre of the Conjunctiva.

In the *Lancet*, January 5, 1884, Mr. R. **Williams** relates the case of a girl, aged eighteen, with a primary sore on the conjunctiva. She had been nursing a child affected with ophthalmia neonatorum, and later on with snuffles, rash on the nates, and other indications of congenital syphilis. When first seen there was a sore on the conjunctiva, between the inner canthus and the cornea. It had a yellowish slough on its surface, was hard, and adherent to the deep tissues. The conjunctiva was generally inflamed, and the pre-auricular and sub-maxillary glands were enlarged. Mercury was given, and she was already improving. At present there had not been time for secondary symptoms to develop. Mr. Edgar Browne says that he has twice met with a primary sore in this position. In the case of a young man there was a chancre at each inner canthus, traced to be due to a habit of pressing the inner corners of the eyes with his fingers and thumbs. He attributed the sores to some brass cleaning paste which he used with his fingers; but, on inquiry, admitted to having made what would be called a digital vaginal examination. In the second case the chancre was placed on the lower eyelid of a young child, and no history could be obtained. In each the pre-auricular and submaxilly glands were enlarged; and he laid great stress upon the early infection of the glands as a guide to the diagnosis.

Strangulated Hernia.

Dr. Oscar H. Allis thus concludes a paper in the *Columbus Med. Jour.*, October, 1883:

(1) Have never lost a case that was operated upon early. By an early operation I mean the moment the bowel cannot be restored by ether, use the knife. I have seen no bad results in operating at eighty.

(2) When I can operate early, I invariably tie up the mouth of the sac to effect a radical cure if possible. Have never seen a case do badly under this treatment.

Cases 1, 2, 3, 4, 5, were all so treated. Even this will be followed after a time by a protrusion, and in one case where the patient was wearing a truss.

(3) In doubtful cases, exploratory incisions are not only justifiable, but not to resort to them is homicidal. With symptoms of strangulation, and a suspicious region, the diagnosis may be made positive after reaching the covering of the sac, and without doing harm to the patient.

Peculiar Situation and Unusual Cause of a Sebaceous Cyst.

In the *Polyclinic*, Dr. A. B. Hirsh reports the case of L. J., colored cook, aged thirty years, who came to Prof. Morton's clinic on February 20th, complaining of difficulty in extending the left middle finger, the effort causing lancinating pains to radiate over this and the two adjoining fingers.

Inspection showed a callosity, three-quarters of an inch in diameter, placed over the flexor tendon of the middle finger, just between the middle of the palm and the base of the finger. The patient stated that last September he ran a sliver of wood into the middle of this spot; he thought he had removed all of it; but kept picking continually at the sore until the tissue thereabout assumed the shape and substance of an ordinary corn, with a slight dimple in the middle.

The callosity was dissected out without bleeding, and was found to be concave below, covering a cyst a quarter of an inch thick, containing cheesy material. This was easily removed by simple lateral pressure, and the wound healed in a few days.

Excision of the Hip-Joint.

The following are the views of Professor John E. Owens, of the Chicago Medical College (*Chicago Med. Jour. & Ex.*), October, 1883:

1. He recommends removal of the greater trochanter in the excision.
2. He asserts that traumatism, not scrofula, is the cause of the disease in a majority of cases.
3. He is skeptical regarding the spontaneous dislocation of the third stage of hip-disease.
4. In the treatment after excision, he places much value on the employment of an apparatus with a ball and socket joint opposite that of the hip, in effecting a cure with a movable joint.
5. With additional experience he becomes a stronger advocate of early excision.

QUARTERLY COMPENDIUM

—OF—

MEDICAL SCIENCE:

—A—

SYNOPSIS

—OF—

THE AMERICAN AND FOREIGN LITERATURE OF MEDICINE,
SURGERY AND COLLATERAL SCIENCES.

EDITED BY

D. G. BRINTON, M.D.

—AND—

JOSEPH F. EDWARDS, M.D.

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I. ANATOMY, PHYSIOLOGY AND PATHOLOGY.

The Pathology of Myxœdema as Illustrated in a Typical Case.

JOHN HARLEY, M. D., Lond., F. R. C. P., Lecturer on General Anatomy and Physiology, and Physician to St. Thomas' Hospital, made these remarks before the Royal Medical and Chirurgical Society, April 8, 1884:

The author gave the history of a typical case which was under his care at St. Thomas' Hospital for a period of nearly seven years. The post-mortem examination revealed extensive adhesions and thickening of the pleuræ with fibrous degeneration of one lung, and also traces of general peritonæal inflammation, the result of a severe illness after the birth of the patient's last child, ten years before her death. The thoracic ganglia were deeply implicated in the adherent and degenerated pleuræ, and on the left side the ganglia could not be satisfactorily distinguished. Apart from these morbid changes, two main facts were obvious. Firstly, the quantity of blood was small: although the heart was contracted and empty, and one lung degenerated and much less vascular than the normal organ, there was no noticeable fullness either of the superficial veins during life or of the great internal veins after death. Secondly, all the tissues were abnormally firm and tough:—there was a general increase of connective tissue throughout the body. The amount of mucin contained in the more important tissues and organs was determined. The author was not aware that the proportions of mucin, and the other constituents of healthy tissues of various ages, had been ascertained, and he had, therefore, determined this question in respect of another patient, a woman, aged twenty-four, who died of mitral disease. On comparing the analyses in the two cases, it appeared that the quantity of mucin was nearly doubled in the myxœdemic case. The author, however, hesitated to conclude from such scanty evidence that the mucin was in excess of the normal amount. But he thought that the question of an increase of mucin sank into insignificance in face of the unmistakably great increase of connective or fibrous tissue, and to which the increase of mucin, if this should be constantly demonstrated, might be regarded as secondary. The cerebro-spinal nervous system was evidently very slightly affected, but the sympathetic was in many cases more deeply involved. He referred to a case of so-called "simple atrophic sclerema," but really one of fibrous degeneration of the lungs and thoracic sympathetic, published in vol. lx, of the "Transactions of the Royal Medical and Chirurgical Society," as illustrating this view. The myxœdemic and scleremic conditions in these patients were merely the consequence of severe internal inflammation, experienced years before and affecting, *inter alia*, the pleuræ and peritonæum, and the sympathetic ganglia adjacent to these membranes. In the two cases referred to, fibrous degeneration of the lung was a notable factor in the disease, but it was of course conceivable that myxœdema scleroderma, and its allies, might have their origin in inflammatory or other changes exclusively confined to the sympathetic ganglia. If this view of the pathology of the disease should prove correct, myxœdema should not be regarded as a specific disease, but merely as a variety of what the author termed "a chronic cold debility," dependent on depression of the vital functions, and frequently associated with fibroid degeneration of the lungs; a condition usually, if not always, traceable to some severe antecedent illness attended by internal inflammation.

Dr. Ord did not quite know whether to rejoice or to regret that his former patient, the subject of the paper, had fallen into the hands of his colleague, Dr. Harley. The Society had, however, the advantage of hearing a totally independent view of the disease, and from one who had apparently kept his mind uninfluenced by any previously expressed views. Under these circumstances, it was pleasing to find that Dr. Harley regarded the disease as a distinct entity. He was obliged to differ in some respects as regards the clinical details, for he still thought the central nervous system suffered; it was not a little remarkable, that many well-marked cases of the disease had been found in lunatic asylums; besides this, distinct histological changes had been found in the nerve tissues. He could not accept the view that the thyroid atrophy was secondary to the disease; he believed it was, on the contrary, an essential element of the disease. He enquired as to the meaning of the term "chronic cold debility."

Dr. Ralfe thought that the author's observations on the lessened quantity of blood, and on the diminution and fluctuation of the urea, both interesting and important. The facts spoke to lessened metabolism, which was taking place in the body generally. He said the increase of connective tissue referred to as being present in the body generally would account for the increased quantity of mucin. There was a parallel disease of the osseous tissue in osteo-malacia, and this, he thought, favored the idea that the metamorphosis of the tissues was really a reversion to a fœtal type of tissue.

Dr. Duckworth asked the author to briefly state what his views really were concerning the nature of the affection. In his own opinion, the disease was quite distinct as a clinical entity, though its pathology still remained somewhat obscure.

Dr. Hadden expressed his belief that the atrophy or absence of the thyroid was an essential part of the disease.

The Histogenesis of Tubercles.

One of our English exchanges, quoting from *Central. f. Klin. Med.*, November 15, 1884, says:

According to Professor Baumgarten, of Königsberg, the development of specific tubercles can be studied most easily and accurately in the changes which take place in the iris of albino rabbits after tubercular matter has been introduced into the anterior chamber of the eye. The first stage is the migration of the bacilli from the particles introduced into the iris tissue, which at this period is perfectly healthy. The free bacilli themselves enter the iris, they are not conveyed into it by wandering cells, and when there they multiply and spread in the tissues. On the tenth or eleventh day after inoculation the iris still looks healthy, although bacilli can be found all over it, both in the intercellular substance and in the cells. In those spots where the bacilli begin to group themselves into nests, changes take place which always lead to the production of typical tubercles. Whilst in their normal condition, the fixed cells of the stroma of the iris of albino rabbits have the form of thin plates, which appear, if seen edgeways, as free oval nuclei attached to the wall of the particular intercellular space under observation; under the influence of the bacilli, these cells swell up to large cubic or polygonal masses of protoplasm (the epithelioid cells of tubercles of authors). The fibrillar intercellullar substance becomes compressed and rarefied by the pressure of these cells, and is more and more reduced to that delicate network known as the reticulum of the tubercle. Whether a hyperplasia and multiplication of the fixed connective tissue cells take place as well as this hypertrophy of the individual cells is not certain, but if it occur it must be in so slight a degree as to take only a subordinate place in the formation of tubercles. The giant cells of tubercles must at present be considered as rising from a fusion of several of these epithelioid cells, and not from a multiplication of the nuclei of a single cell. The wandering leucocytes take no part in the formation of these epithelioid tubercles; a tubercle having this structure can be perfectly developed without the aid of a single leucocyte, and the few which wander into it in the course of its development perish—they shrink to irregular masses, and ultimately break up into small granules. The number of bacilli in the nest which gives rise to one of these epithelioid tubercles in the iris of an albino rabbit is never very great, even when the tubercle is completely developed; but the bacilli increase in number from day to day, and after some time an attack of iritis sets in, generally suddenly, there is a rapid dilatation of the blood vessels, and numerous leucocytes migrate into the stroma towards the tubercles. If the tubercles are examined at this stage, we find they present the typical structure of a Wagner-Schüppel tubercle, a sharply-contoured cellular mass containing no blood-vessels, the centre composed of epithelioid cells and generally one or several giant cells, the periphery for a zone more or less wide, composed of lymphoid elements, the whole penetrated by a delicate fibrillar network. The bacilli in the nest become more and more numerous, and this immigration of leucocytes into the tubercle goes on till the whole mass has the appearance of a small-celled lymphoid structure. The only subsequent changes which can possibly take place in a tubercle after it has reached this lymphoid stage, are those of degeneration and destruction. No lymph-cell tubercle has ever been seen to change into an epithelioid or a giant-celled tubercle in the iris of a rabbit. Other studies of the development of tubercles in other parts of the body and other tissues appear to show that tubercles always grow in a similar way, the different appearances depending on the rate at which the tubercles develop, and at which the different stages follow one another. The rate of growth varies with the number and vigor of the bacilli; the more rapid the increase in the number of these, the more quickly does the primary epithelioid tubercle change into a lymphoid tubercle; and in very malignant cases the bacilli may multiply so rapidly that the epithelioid stage has such a short duration that the tubercles appear to be developed at once in the lymphoid stage, and consequently break down at a correspondingly rapid rate. On the other hand, the tubercles may retain their epithelioid and giant-celled structure for a very long time when there are but few bacilli. From these observations we can understand how the pure lymphoid tubercles are the most malignant, and are only found in the worst cases, the mixed Wagner-Schüppel tubercles in more chronic ones, and the almost purely epithelioid forms in cases of tuberculosis of lymph glands, lupus, tubercular disease of joints, etc.

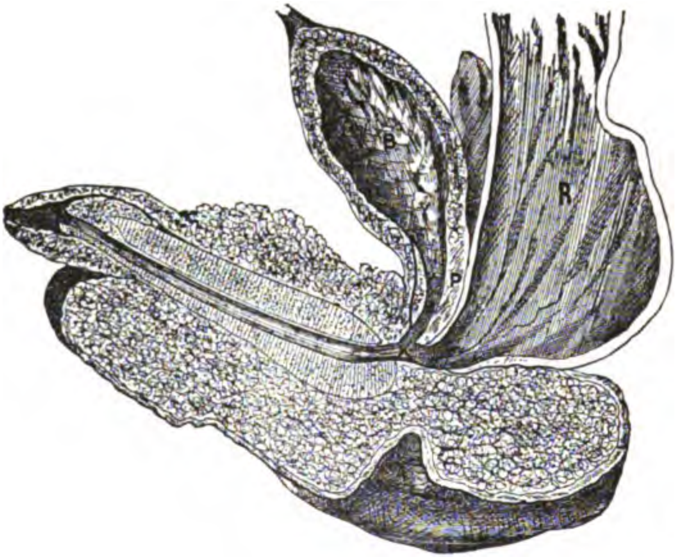
Case of Malformation in a Male Child in which the Rectum ended in the Membranous Portion of the Urethra, and the Fæces were passed through the Penis.

Dr. William Craig publishes this case in the *Edinburgh Med. Jour.*, March, 1884: On the 18th of July last I attended one of my patients in her second confinement. The labor was natural, and the child was a strong, healthy male. Nothing abnormal was noticed at the time, either by myself or the nurse. The child was born about 7 a. m. Nothing unusual occurred that day or the next, but on the morning of the 20th, two days after the birth of the child, I was asked to see the child, as it had been crying all night and was passing its fæces through the penis. I at once went, and made a careful examination of the parts. I found that the child had a careworn and anxious expression, that the abdomen was somewhat swollen and tender, and on examining the perinæum I found a well-marked raphe and a depression in the region of the anus, but no trace of an anal opening. The external genital organs were well developed.

Being fully convinced that I had a serious malformation to deal with, I at once advised that an experienced surgeon should be called in consultation. After consulting with the father of the infant, Mr. Joseph Bell was asked to see the child with me, and on the same morning, about 10 a. m. we met, and, after examining the parts very carefully, Mr. Bell made an exploratory incision in the region of the anal depression to the depth of fully an inch, but could discern no trace of the bowel. The wound was kept patent by means of pledgets of lint, but there was no bulging of the bowel. Two days afterwards Mr. Bell again saw the patient, and this time Professor Turner was also present and examined the parts. On this occasion Mr. Bell extended his incision in the region of the pelvis, but without finding any trace of the rectum. Mr. Bell not feeling warranted in extending his incision deeper, the child was left in this state for a few days. During all this time the fæces came regularly by the penis, causing intense agony to the little sufferer. Mr. Bell, after several days, again examined the patient, but did not feel justified in interfering further surgically in the case. I examined the wound daily, but could never discover any bulging of the bowel toward the opening made by Mr. Bell. The child lingered on till the 5th of August, having lived rather more than eighteen days.

"The autopsy was performed some seven or eight hours after death. Leave was given to inspect the abdomen only. Externally the penis, testicles, and scrotum, were normal in appearance and development. In the middle line of the perinæum, instead of an anus, there was a depression or *cul-de-sac* of sufficient depth to admit the greater part of the distal phalanx of the little finger. The internal organs were exposed by a crucial incision and inspected *in situ*. Above the pelvis they were normal and healthy. The ascending and transverse colon contained some soft, semi-fluid, feculent matter, bright yellow in color. The descending colon and the pelvic organs, including the penis, scrotum, and testicles, were removed *en masse*, and preserved for some weeks in chloral. They were afterwards transferred to strong spirit for a few days to harden. With the assistance of Mr. Symington, a section was made in the middle line of the penis, bladder, and lower part of the rectum. The bladder was slightly hypertrophied. There was no communication between the rectum and the bladder, but in front of the prostrate gland the rectum entered the membranous portion of the urethra, as shown in the accompanying drawing.

"As can readily seen by a reference to this drawing, the first and second parts of the rectum were well developed, the latter being somewhat dilated behind the place where it opened into the membranous part of the urethra. The third portion of the rectum was completely undeveloped."



Anatomical Injection of the Blood-vessels through the Cerebro-Spinal Cavity.

Dr. B. W. Richardson, in his *Asclepiad*, gives the curious results of some experiments made by him several years ago. He was trying to stimulate the brain directly with oxygen gas, and used for the purpose a long subcutaneous injecting needle, introduced into the cavity of the cranium from behind the eye-ball, through the optic foramen. In his operations on animals, on opening the abdomen to expose the iliac veins and inferior cava, they were found to be filled with dark blood; then, on using his injection, almost instantly the blood in the vena cava inferior became of bright red arterial color, the color gradually extending along the vessel, until, in time, it reached the right side of the heart. This effect was produced by the use of oxygen, of common air, and of carbonic oxide. The venous blood in the sinuses of the brain and in the vena cava superior was not changed in color by the injection. Next, after dividing the vena cava and inserting a tube, coal-gas was injected in the same way, and escaped so freely from the vena cava jet that it could be lighted immediately. A drachm of mercury was made to pass in the same way into the iliac veins and lower part of the vena cava; this was repeated until the mercury reached the heart, traversed the lungs through the pulmonary circuit, reached the left side of the heart, and extended into the arteries. In the process of embalming, four pints of the preserving fluid can be injected over the body through the subcutaneous injecting needle, by the cerebro-spinal cavity.

Dr. Richardson has been unable to discover, up to this time, how, from the cerebro-spinal cavity, the injected matters enter the veins so easily. It charges the plexuses of the medulli-spinal veins which lie between the pia mater and the arachnoid, but the entrance of it is obscure. No injury is traceable in the brain substance after the injection, unless undue force is used, but it is obvious that the lateral ventricles are first charged with the injection.

This leads to the almost certain inference that the cerebro-spinal fluid, which is always being secreted, finds its return current into the venous circulation in a similar manner, and that the cord and brain are thus relieved of pressure from it. If that be so, we have a ready and rational explanation of many cerebral and spinal disturbances occurring under retarded current of blood through the vena cava inferior by pressure in the vessel, or by obstruction in it in some part of its course. He gives as a case in point that of a gentleman advanced in life, who was laboring under ascites. The abdomen was tense with the fluid, but the urgent and apparently fatal symptoms were cerebral and spinal. The patient was quite unconscious, breathed with deep stertor, and had frequent convulsive starts and tremors. Being in consultation, he suggested that the nervous symptoms might be due to obstructed venous circulation and what might be called cerebro-spinal dropsy, and advised tapping, which was done with the result of drawing off eight pints of fluid, and restoring the patient to consciousness. He lived for nearly two years afterwards in comparative comfort, undergoing the operation of tapping several times, and sinking at last from gradual exhaustion increased by senile degeneration. Dr. Richardson thinks it probable that the vertigo which is met with in temporary hepatic obstruction, is often due to retardation of the return ascending venous current, and suppression of the cerebro-spinal secretion; as also hysterical convulsion, preceded by great distention of the abdomen from flatus; and that puerperal convulsion may be mechanically induced in the same manner, as the discharge of the cerebro-spinal fluid into the general circulation is seen to be, chiefly, at a part of the venous system where uterine pressure is most likely to prove an impediment to the ascending venous current.

The Nervous Mechanism of Respiration.

The *Lancet*, May 3, 1884, says: In the last volume of the *Archiv für Physiologie*, Dr. **Léon Fredericq** gives the results of his observations and experiments on the innervation of the respiratory organs. It is generally admitted that the medulla oblongata contains on each side of the median line a pair of centres, one of which governs the acts of inspiration, the other those of expiration, and their alternating activity ensures the regular and rhythmic succession of the respiratory movements. The destruction of these centres instantly stops respiration, and death by asphyxia follows. This view was supported by the observation, made in 1879 by Kronecker and Markwald, that if the medulla oblongata, separated by division from the encephalon, be stimulated by electricity, respiratory movements could be excited in the intervals of those movements performed by the animal itself. Brown-Séquard, however, for the last twenty years, has never ceased to protest against the current interpretation of section of the bulb. This experienced physiologist maintained that mechanical lesions of the medulla suspend respiration not because they paralyse any respiratory centres there situated, but because they excite the nervous inhibitory mechanism of the acts of respiration. He declared that he had seen respiration continue in birds and in young mammals in which he had extirpated the supposed respiratory centres, and from which he had even removed the whole medulla oblongata. These remarkable facts have, however, attracted little attention, and certainly have produced no effect on the opinion generally adopted, which appears to give so satisfactory an explanation of the nervous mechanism of respiration.' Nevertheless, as Fredericq remarks, Brown-Séquard's statements have of late years been repeated and corroborated by other observers, as by P. de Rokitansky, Langendorff, Nitschmann, and others. Langendorff has recently completed a series of researches, in which he attemps to prove that the respiratory centres of the medulla oblongata are non-existent; that the arrest of respiration observed after lesion of medulla oblongata is not always definitive; that this arrest proceeds from mechanical irritation of an inhibitory apparatus, acting in opposition to true centres of the respiratory muscles, just as the vagus does in regard to the heart. He is consequently disposed to decentralize completely the respiratory motor impulses. He gives to each muscle or group of muscles of respiration a special nerve centre. The movements of the diaphragm, for example, he regards as being under the influence of their own proper nuclei of origin in the middle part of the cervical region of the cord. In Fredericq's experiments rabbits were used. The animal was placed on a Czermak's stage, and the medulla oblongata exposed. Ice was then applied to it, and it was found that in proportion as the temperature of the medulla oblongata fell, the respiratory movements became slower and slower, till at last there was only one in three or four seconds; but they could not be altogether arrested by this means, even when the application of ice was continued for one or two hours. The moment the application of ice was intermitted, and the rays of the sun allowed to fall on the bulb, or when it was otherwise slightly warmed, the frequency of the respiratory movements increased. The application of the ether spray stopped the respiratory movements in from two to five minutes, but Fredericq appears to have been strongly impressed, both in this and the former experiments, with the great resistance to cooling influences possessed by the nervous system. On the whole, his experiments seem to be in favor of the old view, and he has satisfied himself of the existence of a central organ for the respiratory impulses in the medulla oblongata.

The Formation of Giant Cells in Epithelial Tissues.

From the *Boston Med. Jour.*, May 15, 1884, we note that KLAUSS (*Virchow's Archiv*) says that much has been done of late in the investigation of giant cells, and differences of meaning have arisen as to their manner of formation, their origin, their value, and the soil from which they spring.

In regard to their formation, it is supposed that they came either from a single cell alone or by the addition of protoplasm from the neighborhood, or from the union of many cells.

Their origin has been assumed to be from white blood corpuscles, from granulation tissue, from endothelium, and from epithelium.

A different value has been assigned to them. In part they are considered as a product of progressive, in part as an expression of retrograde, metamorphosis. To the first group are reckoned the cells of this class occurring normally in the bone marrow as well as those arising in granulation tissue and in sarcomas, while those in lupus and tubercle appear to many authors to belong to the second group.

They come in very different tissues. Normally they are found in the bone marrow, in the reabsorption of bone, in the placenta, and in the uterine sinuses at the insertion of the placenta. In pathological processes they occur repeatedly. Here the nuclei are colored less distinctly, and are only to be recognized by their faint contour; this finally disappears, and with it the nucleus, and there only remains a glancing scale.

In epithelial growths the protoplasm in which these nuclei lie corresponds with that of the epithelial tongues, and is either granular or homogeneous. It has no peculiarities in respect to coloring agents, except at times it does not color at all, suggesting a fatty degeneration. The shape of the cells varies greatly. Among the smallest there is a form corresponding to flat epithelium, while the larger ones have no type. The first can often be seen in the periphery of the tongue, and occasionally they are found occupying an entire cross section. For these cells there is no doubt of their origin from epithelium. On the other hand, when these cells lie in the periphery they are either directly connected with it or separated from it by a narrow space. In the latter case they appear as polyformed protoplasmic masses corresponding in size to several epithelial cells, to which they probably correspond. Finally, giant cells are found in the round cell tissue, but their nuclei and protoplasm correspond with those previously described.

Whether these cells are formed by confluence of other cells, or whether from nuclear division, or from a combination of both processes, is to be considered. In support of the confluence theory there is to be brought forward their irregular form, the atypical position of the nuclei, the degenerative processes which they undergo (calcification, or change into hyaline scales), and finally the fact that a faint contour is still visible in many of the larger cells. In other cases where round or oval protoplasmic masses can be made out, in the midst of which are fine vesicular nuclei, the division of the nuclei must be assumed.

The essential results of these observations, which were made on over seventy cases of epithelial new growths, were:

(1.) In epithelioma there occur giant cells which are derived from the epithelial cells.

(2.) No certain conclusion can be drawn as to the manner of their formation.

An interesting fact was the production of giant cells along a piece of catgut which had been used at a primary operation and was removed with the recurrent growth.

In an adenoma of the sebaceous glands, a very rare form of growth, and essentially an epithelial structure, giant cells were also present.

Three Cases of Tumor of the Lung.

To the Pathological Society of London (*Brit. Med. Journal*, May 10, 1884.), Dr. **Samuel West** exhibited these specimens, and gave the following account of the cases. 1. A youth, aged 18, whose thigh had been amputated for osteo-sarcoma some months previously, came under observation suffering from pain in the chest, dyspnœa, and palpitation. About fifty ounces of blood-stained fluid were removed from the left pleura by aspiration. At the necropsy several massive tumors were found in each lung, soft and spongy on the surface, but very hard within. They were of the same nature as the original tumor of the leg, that is to say, osteo-sarcoma. There were no secondary growths elsewhere, and the stump was healthy. 2. A man, aged 39, had been ill for a month, when he came under observation with what appeared to have been pneumonia. At the base of the right lung some effusion was found, but the removal of this did not bring much relief. At the necropsy, at the root of the right lung, surrounding the bronchi and vessels and compressing them, was found a mass of new growth extending into the lung-substance along the course of the large bronchi. Microscopically, the growth was found to be scirrhus. 3. A man, aged 62, had physical signs exactly resembling those of the last patient; the *post mortem* appearances were similar, except that the tumor was of small extent, sending processes only a very little way into the lung-substance. As in the other case there were œdema and inflammatory changes, which had gone on to the formation of a cavity. The tumor in this case was also scirrhus. These two last cases were instances of what were commonly called primary tumors of the lung. But this was, Dr. West thought, a mistake, for they originated in the lymphatic tissue at the root of the lung, and only affected this by direct extension. They were distinct both from tumors of the lung-substance, and from mediastinal tumors. The former were very rare as primary, but common as secondary growths. The first case was, in his opinion, one of secondary growth. The points in the last two cases were, that the disease was nearly always unilateral, starting from the root and radiating inwards along the branches of the bronchi. All the structures at the root were compressed by it, and the result was that there was collapse and œdema of the lung, with inflammatory changes, often followed by breaking down of the lung-substance, and the formation of cavities by a species of necrotic degeneration. These cavities were not, as was sometimes said, the result of the softening of cancerous nodules, and they contained only the products of lung-tissue. The diagnosis, both from ordinary phthisis and from mediastinal tumor, was often very difficult.—The **President** observed that the growth, if it were connected with the lymphatic system, must have travelled against the direction of the lymph-current, and suggested that it might have extended in the connective tissue.—Dr. **Norman Moore** thought that the disease in these cases was probably endothelioma arising in the pericardium. He thought that these growths recurred with considerable frequency in the lung, where the original tumor was situated in an extremity.—Dr. **Ewart** had met with two such cases. He mentioned the case of a child, aged 10, in whom the whole of one lung became consolidated, secondary to a tumor of the lower limb.—Mr. **Bowlby** said that he had examined the first case recorded by Dr. West. The primary tumor was a central growth of the thigh; the microscopical appearances were those of a fibro-sarcomatous growth. The recurrent tumor in the lung was, in his opinion, an endothelioma.—Dr. SAMUEL WEST, in reply, expressed his concurrence with this view of the nature of the growth.

A Possible Ætiological Connection between Cerebral Hæmorrhage and a Small-sized Aorta.

To the New York Pathological Society (May 14, 1884), Dr. F. FERGUSON presented specimens from the body of a man twenty-two years of age who had died in the New York Hospital. But a very meagre history could be obtained. The patient was found one morning in the water-closet, at the place where he was employed, unconscious, paralyzed on the right side, with both hands clenched, and breathing heavily. When he was brought to the hospital the pupils were equal, but not responsive to light; there was paralysis of the entire right side, less marked in the upper extremity; he was unconscious; the respiration was slow and stertorous; the pulse 64. He continued in this condition until the following day, when the right pupil became much dilated, and the left side paralyzed. Just before his death the temperature went up to 108° F., death taking place three days after the stroke. At the autopsy all the organs were found healthy except the brain. A large effusion of blood was found at the island of Reil, and all the convolutions were flattened. There had also been a large hæmorrhage within the brain on the left side, involving the ganglia. It was said the patient had been perfectly healthy up to the time of the accident. The case was of interest, because hæmorrhage in the brain occurred very seldom with a healthy condition of all the other organs, and without disease of the cerebral blood-vessels. The anomaly in the case related to the aorta, which was at least a third smaller than normal. This diminished size of the vessel might have been a mere coincidence, but Dr. Ferguson's attention was drawn to it from the fact that recently he had seen another case of cerebral hæmorrhage in which all the organs were healthy, the aorta, however, being a little less diminished in size than in the present case.

Dr. Northrup thought the aorta in the case presented by Dr. Ferguson was not much more than half as large as usual.

Dr. Porter had seen a case of extensive cerebral hæmorrhage in a young man between twenty and twenty-five years of age, in whom he could give no other explanation for the accident than long-continued malarial poisoning. There were also hæmorrhages into the spleen.

Dr. Van Santvoort thought that, for want of a better explanation, we might suppose that in Dr. Ferguson's case the lack of development in the aorta was an indication of lack of proper development in the arteries generally throughout the body, making liability to hæmorrhage greater.

Dr. Levi thought that defective elasticity of the artery attending its diminished size, might make cerebral hæmorrhage more likely to occur.

Dr. Peters related the history of a man who apparently brought on a fatal cerebral hæmorrhage by restraining his feelings while undergoing abuse.

Dr. Carpenter inquired of Dr. Ferguson whether he had noticed a diminished size of the aorta in other cases than the two in which cerebral hæmorrhage had occurred.

Dr. Ferguson said his attention had not been directed to the matter.

Dr. Carpenter had noticed a small size of the aorta in at least two cases, in which there was no hæmorrhage into the brain, but the diminution in size was not so great as in the case related by Dr. Ferguson.

Angioma of the Coccyx.

To the Brooklyn Pathological Society (April 10, 1884), Dr. F. A. Jewett presented a specimen, and gave the following history:

"The accompanying tumor was removed in January, 1884, from the coccyx of Miss B., aged thirty-eight, who presents the following history:

"At birth her mother says it was as large as a fœtal head, and of a globular form. It decreased in size, becoming firmer, up to her seventh or eighth year, when it was of about the size of a goose's egg, and quite hard. When about seventeen years of age she had a fall, striking heavily upon the tumor. An abscess resulted from this, but healed without giving her much trouble. Three years ago she fell again, striking the tumor a sharp blow upon the edge of a door-sill, an abscess following, which continued to discharge three or four ounces of offensive pus daily, until the removal of the tumor in January. Shortly after her second fall she went under the care of a quack, who injected it with a caustic solution. After pursuing his treatment for a year, she yielded to the advice of physicians in this city, and consented to its removal, which was accordingly done, and the patient made a good recovery."

Rupture of a Degenerated Gland into the Trachea; Death from Asphyxia.

To the New York Pathological Society (April 23, 1884), Dr. W. P. Northrup presented a specimen illustrating general tuberculosis with rupture of an enlarged bronchial gland into the trachea, obstruction of the right bronchus, and death from asphyxia five hours after the accident. The patient was two years and ten months old, an inmate of the New York Foundling Asylum. The child had always been delicate. The nurse stated that five hours before death it was taken with a fit of strangling and cyanosis. She also stated that she withdrew four long white worms from the mouth. When brought into the asylum, the patient was moribund, and died within five hours from the attack, the symptoms being those of bronchial obstruction. At the autopsy, cheesy material, which was found to have entered from an enlarged gland through an erosion into the trachea, completely occluded the right bronchus. There were a few tubercular deposits in the other lung, but Dr. Northrup remarked that it was practically sound, and he could hardly understand why death should have taken place from asphyxia.

II. PHYSICS, BOTANY, CHEMISTRY AND TOXICOLOGY.

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*Litmus Solution and Litmus Paper.**

We note the following from the *American Druggist*, April, 1884: To prepare a highly sensitive solution of litmus, Stutzer recommends the following method: Commercial litmus is dried, finely ground, and the coloring matter extracted with cold water. The united liquid extracts are filtered, evaporated to about one-fourth on a water-bath, then mixed with some clean sifted sand, and finally with enough hydrochloric acid to render the liquid faintly acid, whereupon the whole is evaporated to dryness. The dry residue is repeatedly extracted with alcohol of 80–85%, until the latter scarcely takes up anything more, and the remaining residue of litmus and sand is evaporated to dryness on the water-bath. For use, portions of this are extracted with hot water to which a few drops of ammonia are added. The liquid is poured off from the sand and transferred to high glass cylinders, in which all the suspended particles will settle to the bottom within twenty-four hours. In this way, the exceedingly tedious filtration of a concentrated turbid litmus solution is avoided. Portions of the clear solution (or the whole of it, according to circumstances) are then poured into cylindrical glasses (test-tubes, etc.), and carefully neutralized with diluted sulphuric acid, or with ammonia, as the case may be, so that the liquid has still a distinctly blue color. The proper tint will be indicated by the fact that three or four drops of the liquid mixed with 25 cc. of distilled water will soon color the latter onion-red, in consequence of the carbonic acid held in solution by it. When requiring some of the litmus solution for titration, it is best to remove the requisite quantity by means of a small glass-tube serving as a pipette.

If prepared in the described manner, the litmus solution is free from all impurities which interfere with its sensitiveness, and only contains the real blue coloring matter, the so-called azolitmine. The hydrochlorate of azolitmine is insoluble in water and alcohol, and may thus be separated from the other coloring matters. If an alkalimetric titration is performed with the above-described litmus solution, the onion-red coloration (as soon as a trace of acid is in excess) appears suddenly and sharply without intermediate tints. Hence, the use of such a purified litmus solution is highly to be recommended. As its preparation is somewhat circumstantial, it is best to make a larger quantity at a time. The residue of sand and pure litmus can be kept unchanged for any length of time, and any desired quantities of it may be deprived of the coloring matter by treatment with water and some ammonia. Of course, this purified litmus solution is chiefly intended only for use in scientific analysis, and in experimental, technical or manufacturing laboratories; while it would be unnecessary for the daily control analyses of large works (as, for instance, soda works) which consume a large quantity of litmus.

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* Extract from a work by Dr. Fr. Böckmann, entitled: "Chemisch-technische Untersuchungsmethoden der Gross-Industrie," etc. 8vo. Berlin (Springer). Vol. I., pp. 93. This work can be specially recommended to practical analysists.

It should be added that a considerable portion of coloring matter is lost in the preparation of the litmus purified according to Stutzer's process. This feature is, of course, of more importance in factories (which often consume 200 to 300 pounds of litmus per year) than in scientific laboratories.

Litmus paper is prepared with the aid of the solution of litmus just described, made sensitive by the cautious addition of sulphuric acid. The selection of a suitable paper is also of paramount importance. Among the best is fine letter-paper known in commerce under the name "papier vergé."

This paper is laid, in half sheets, into the tincture contained in a porcelain dish, and the sheets turned over so that both sides receive an equal amount of coloring matter. The sheets are removed after a while, allowed to drain, and, if necessary, deprived of excess of liquid, by swinging about, and finally hung up on strings, in the room, to dry.

In this way an exceedingly sensitive light bluish-violet litmus paper is obtained which is best kept in form of half-sheets. When cut in strips, these must be kept in a bottle or box, and must not be exposed directly to the atmosphere prevailing in the factory or laboratory.

Only if prepared in this matter is litmus paper really sensitive. When withdrawn from the solution, the moist sheets must have rather a reddish than a violet tint. When dry, they assume a bluish-violet tint, while, if the paper had a violet color when moist, it would turn blue on drying.

Application of Oxygen to the Treatment of Asphyxia and of Certain Cases of Poisoning.

M. Loysel furnishes the following translation from a French journal to the *Pharmaceutical Record*, May 15, 1884:

Oxygen had hardly been discovered when Priestley thought of the therapeutical applications that could be made of "vital air" in certain lung diseases, "when common air would not suffice to completely and promptly evacuate the putrid phlogistic effluvium."

In fact, he himself risked respiring the dephlogisticated air, and it seemed to him that his chest became "singularly comfortable and cleared during some time."

Since that period a great number of experiments have been made with a view of proving that oxygen is the antidote of all kinds of asphyxia.

But here arises an important question: May a quantity of pure oxygen be respired without danger? Priestley had already expressed fears of the too great activity of oxygen, especially in a state of health; "for," says he, "in the same manner that a candle is consumed much more rapidly in dephlogisticated than in common air, we might also, so to speak, live too fast, and the vital forces might be too soon exhausted in this pure sort of air."

M. Loysel, in a very remarkable thesis, has made known the experiments he has undertaken with a view of studying the action of oxygen administered in different doses by inhalation, in all the kinds of asphyxia caused by a certain number of medicinal or poisonous agents, and the following are the results he has obtained:

1. In poisoning by chloroform, ether, chloral, opium and its alkaloids, hydrosulphuric acid, carbonic oxide, or hydrocyanic acid, oxygen is the most energetic means of restoring life, and the only one which can in severe cases give any successful result. If it fails, all will equally fail; on the other hand, oxygen has been seen to succeed where everything, including ordinary artificial respiration, has been vainly tried.

Further, as it does not contraindicate any other medication, it should always be employed first, alone or in conjunction with other remedies.

2. Exhibited in the case of an anæsthetized patient, as soon as the operation is terminated, inhalations of oxygen render the return to sensibility much more rapid, and promptly dissipate the effects of the anæsthetics. (MM. Ozanam and Duroy.)

If the use of oxygen should become general, those cases of death occurring several hours after the administration of chloroform would perhaps disappear.

Administered to the asphyxiated, by means of inhalations, natural or forced, according to the case, oxygen will have all possible chances of restoring life, whatever be the method of the asphyxia (submersion, strangulation, effects of lightning-stroke, of intense cold, direct action of carbonic acid, coal-gas, etc., etc.)

4. In the case of the newly-born in a state of apparent death, it will render the greatest service.

5. Whenever respiration is not completely stopped, however infrequent are the respiratory movements, one may be almost certain to save the asphyxiated or poisoned in the cases we have indicated, by means of oxygen inhalations well made and sufficiently prolonged. The experiments of M. Loysel do not, however, permit him to be so confident in the case of poisoning by very large doses of chloral or opium.

6. When respiration and the heart-beats have stopped, if too much time has not elapsed since their definite cessation, the patient's life can often be restored by means of oxygen.

Finally, this mode of treatment being inoffensive, M. Loysel recommends that it be always resorted to, and continued with perseverance, without discouragement by the tardiness of the return to sensibility and life. Cases are not rare where the drowned, and newly-born infants, for example, have been saved, contrary to all hope, thanks to efforts long and patiently made.

7. Oxygen may be respired in considerable quantities without the least inconvenience.

There exists no contraindication to its use in cases of asphyxia or of poisoning to which this agent is applicable.

Liquid Carbonic Acid Gas.

The *Druggist*, March 15, 1884, says: At a meeting of the Society of Chemical Industry a paper (which we find reported in the *Chemist and Druggist*, and from which we quote) was read by Mr. A. Zimmerman (of the firm A. and M. Zimmerman), the subject matter of which was furnished by the interesting researches of Dr. Wilhelm Raydt, of Hanover, on the behavior of carbonic acid gas, when subjected to a pressure of thirty-six atmospheres at 32 deg. Fahr. Our readers are probably aware that under these conditions of temperature and pressure, carbonic anhydride assumes the liquid condition. It is, however, absolutely necessary that the pressure should in no way be relaxed, otherwise the gas will again pass into a state of vapor. Dr. Raydt has constructed an apparatus of some considerable ingenuity in which to store the liquid carbonic anhydride. The machine consists of a wrought-iron cylinder holding about ten litres, and containing liquefied carbonic acid gas. The pressure in the cylinder equals about 36 atmospheres at 32 deg. Fahr., and about 75 atmospheres at 86 deg. This pressure may be increased by placing the cylinder in hot water. Indeed, it has been proved experimentally that at a temperature of 200 deg. Celsius a pressure of 1,200 atmospheres can be produced. The cylinders are all proved to resist a pressure of 250 atmospheres, so that perfect safety is guaranteed. To more conveniently employ the gas from the liquefied carbonic acid, it is first transferred to a gasometer, and from this pipes are carried as required: The use to which the invention has been employed in Germany, and for which it is thought it will be useful in this country, is for raising beer. The gas is conveyed by a tube bored through the top of the cask, at a pressure of about 1½ atmospheres. This is quite sufficient to force the beer up another tube to the heights ordinarily required. Obviously, the beer is kept in a good condition, and indeed improved by this contact with carbonic acid gas. Many other applications of the invention are possible, as, for example, for extinguishing fires, for preserving products likely to putrefy if in contact with air, and for the manufacture of aerated waters. It is the intention, it appears, to form a company to set up a plant here and manufacture the machinery, as well as liquefy and supply the gas. At present, the cost of the gas in Germany, as supplied to the restaurants, exclusive of the first cost of the apparatus, is about 18s. per cylinder. This holds about 10 litres, which expand to some five hundred times their bulk when allowed to escape. For aerated waters we do not for a moment believe the apparatus will be of the least value, the great danger of handling cylinders containing such an enormous pressure being a sufficient deterrent, in spite of every other supposed advantage.

Extemporaneous Preparation of Gelatinous Phosphate of Calcium.

C. Tanret of Paris thus writes in the *Pharmaceutical Record*, May 1, 1884: When an excess of alkali is added to a solution of tribasic phosphate of calcium in hydrochloric acid, the phosphate of calcium which is re-precipitated is gelatinous; but, as this precipitate is very hard to wash, it is usual to heat the liquid in which it is suspended to the boiling point, that the precipitate may become coherent, after which it may be easily washed, drained, and dried.

This more compact or coherent form of the phosphate is, however, less easily attacked by the digestive juices, and the lighter gelatinous preparation is probably preferable where it is desired to mechanically protect the membranous surface of the intestines. For this reason, the gelatinous form has been recently proposed in place of the pulverulent phosphate. The difficulty of preparing and preserving it has, however, prevented its introduction.

Impressed by the superiority of this gelatinous phosphate, I have endeavored to devise an easy method for its preparation.

Crystallized acid phosphate of calcium (mono-calcic phosphate, $CaH_4(PO_4)_2H_2O$) is treated with the requisite amount of caustic lime (CaO) to produce the tribasic phosphate of calcium (tricalcic phosphate, $Ca_3(PO_4)_2$), which, in this case, is gelatinous. The reaction is as follows:—

Acid Phos. Calcium + *Lime* = *Tribasic Phos. Calcium* + *Water.*

$$CaH_4(PO_4)_2H_2O + 2CaO = Ca_3(PO_4)_2 + 3H_2O$$

The presence of sugar in pharmaceutical preparations of this nature being usually unobjectionable, I dissolve the lime in simple syrup (forming a sucrate of lime), and add this solution to the crystallized phosphate previously dissolved in water.

For 1.26 grammes of crystallized acid phosphate of calcium, theory would require 0.56 gramme of pure caustic lime (CaO), or 0.74 gramme of perfectly hydrated lime $Ca(OH)_2$, to produce 1.55 grammes of gelatinous phosphate of calcium ($Ca_3(PO_4)_2$).

But the acid phosphate, being hygroscopic, usually contains from 7 to 12 per cent. more water than is called for by the above formula, and caustic or slaked lime is seldom perfectly pure. For these reasons it is best to use 0.50 gramme of slaked lime ($Ca(OH)_2$) for each gramme of the acid phosphate, the product of gelatinous, tricalcic phosphate ($Ca_3(PO_4)_2$), being rather more than one gramme.

This formula is very easily remembered, and the extemporaneous preparation of the gelatinous phosphate becomes a very simple matter, and the writer recommends this process for general use.

Distillation by Filter.

A writer in the *Druggist*, May 15, 1884, says: Glancing over the pages of one of our German-American pharmaceutical journals, I noticed a translation from the Italian on the early use in Germany of the lily of the valley (see *The Druggist*, vol. vi., page 26) for cardiac and phrenic troubles. Describing the method of exhausting the drug, it was stated that it was customary to place it into some wine, to add some of the popular carminatives, such as rosemary, thyme, and so forth, and then to "distill it three or four times," the preparation thus obtained being considered worth almost its weight in gold. To this the translator remarks that, since "distillation" as at present understood could hardly be referred to, our forefathers must have been acquainted with some other method of distillation—and such is the case.

We but rarely hear of it now, but the chemists of the Middle Ages distinguished three different kinds of "distillation": Distillation by alembic (that is from a still), by decensory (applying heat to the top of the container), and by filtration, generally termed destillatio per filtrum. In this process of clarification use is made of capillary attraction by taking a long strip of felt, wool, silk, cotton or asbestos, cut tapering to a point and placing it into the liquid, allowing the apex to hang over the edge of the vessel. Capillary action causes the liquid to rise in the "filter," and then to descend in the depending portion by gravitation, when it will "distill" or fall in drops into the receiver, leaving behind all impurities.

Special virtues must have been attributed to this mode of purifying solutions, since it was extensively practiced side by side with filtering through paper and porous earthen jars. It was not uncommon to place a series of four or five of such distillatory apparatuses on steps, one above the other, thus inaugurating a sort of re-distillation. And this is what was meant in the article referred to.

This method of separating solid impurities from liquids is hardly of practical use to-day, and never practiced; and yet in some special cases it might be really desirable. Although capillary force is the only agent causing the upward flow of liquid, it still must be borne in mind, by any one inclined to experiment, that the point of the filter must be lower than the surface of the liquid—so that the arrangement might not unjustly be termed a capillary siphon.

This mode of filtration was already well known to Plato and Aristotle. It is quite interesting to note the etymology of the word "filter," the Latin for which is *filtrum*, while *feltrum* signifies felted wool, *i. e.* felt. The Greek *pilos* means hair, whence it appears that filters were made at a very early date of wool.

Electric Lighting.

The *Popular Science News* for May, 1884, says: One of the most extraordinary results of the extended introduction of the electric light in competion with gas is, that but very little unimpeachable testimony has been offered, showing the relative cost of the two methods of lighting. Interested parties, those who hold patent monopolies, have been active in publishing statements of alleged experiments; but these do not rest on an honest or on a scientific basis. The plain indications are, that electric lighting in this country is too costly, in comparison with gas, to come into popular use. In England, where illuminating gas is made much cheaper than here, the electric light meets with even less promising competition.

Last year a Mr. Coope sent to the London *Times* a communication giving his practical experience in lighting his premises with Swan's electric incandescent lamps. This year, after another twelve months of trial, he presents the results of further experience. The Swan lamp is the same as that of Edison in this country. He reports that during the whole of this time there has been no mishap of any kind, with the exception of the belt slipping three times, which caused five minutes' delay at the outside. The lights have been found steadier than gas, and the lamps, instead of being eighteen-candle power, as when started, are now working up to twenty-candle power. There are two hundred of these lamps in use, and the renewals numbered three hundred during the twelve months, in which the actual working hours of the lights amounted to 1,823. The expenditure, including ten per cent. of cost for depreciation of machinery, and five per cent. for depreciation of conductors, amounted to £232 15*s.* 1*d.*, or nearly one farthing (.9 of a farthing), per eighteen-candle lamp per hour. Mr. Coope says that another year's experience enables him to re-assert most emphatically what he said last year as to the advantages of the incandescent lamp. He recommends that the plan of massing the lamps in electroliers should not be adopted in lighting dwelling-houses, but that the lamps should be rather kept as far as possible apart. A Mr. Bower, writing to the *Times* subsequently, gives data to show that the same amount of effective light could have been obtained by burning coal-gas, estimated to have been produced for 3*s.* 5*d.* per thousand cubic feet, at a cost of one-sixth of a penny per light per hour.

Suspected Arsenical Poisoning.

The *London Medical Record*, April 15, 1884, says that in the *Wiener Medical Blätter* for January 3, 10, and 17, an account is given by Prof. LUDWIG and Dr. Mauthner of a somewhat remarkable case, forensically, of suspected arsenical poisoning. The body of a girl of 18, who had lived at Tenje, in Slavonia, was found floating in a canal near her home on July 19, 1882. The girl was known to have been about three months pregnant, and her lover accused the people in whose house she had last been seen of having caused her death. A necropsy was made, which showed that the body had entered the water during life; but as the representations of her friends were strong, and as the water in the canal was only four feet deep, an exhumation of the body, with a view to chemical examination, was ordered on August 12. A very small amount of the internal organs was removed, only 23 grammes in all, made up, with the addition of some pieces of skin and hair, to a total weight of 70 grammes (nearly 2½ ounces). The quantity was so small that the whole of the materials had to be tested together, and distinct traces of arsenic were found, although quantitative analysis was impossible. In consequence of this uncertainty, another exhumation was ordered, and carried out in May, 1883, when large portions of the different organs were secured, as well as pieces of skin and hair, pieces of the dress of the deceased, of a garland of artificial flowers in the coffin, of the coffin planks, and of the earth of the grave. No arsenic was detected in the skin or muscular tissue; traces, too small to weigh, were found in the viscera and the hair, and large quantities in the artificial flowers and colored silk cloths which had been placed in the coffin; also traces in the earth of the grave, but none in the coffin planks, nor in the earth from other parts of the graveyard. The source of the arsenic was therefore apparent; but the case shows what serious mistakes may arise from an insufficient quantity of the suspected matters being taken, and from the neglect of the other contents of the coffin.

Opium Poisoning Treated with Nitrite of Amyl.

Dr. W. L. JOHNSON reports this case in the *Texas Courier-Record of Medicine* for May, 1884:

In February, 1882, I was called to see Mr. M., who had taken two ounces of laudanum, three hours before I saw him; he was laboring under all the symptoms of complete narcotism; no pulse at the wrist, respiration six to the minute, face and skin cyanotic, extremities cold, and perspiring freely. I attempted to arouse him, but to little or no effect. I used belladonna and the usual remedies recommended by the authorities, all the while the patient growing worse, and at the expiration of two hours his condition was *very grave.* At this juncture, I instituted artificial respiration, and at the same time ordered the nitrite of amyl, which I immediately used on its arrival. Poured twenty or thirty drops on a pocket handkerchief, he inhaling it for seventeen seconds; at the time he looked up and asked what was the matter. By this time his face and the general surface became a crimson red; pulse could now be felt at the wrist, his respiration becoming free and easy; the extremities and surface became warm and pleasant; the patient was relieved, as I thought, temporarily—but not so, the indications not calling for any further use of the agent; had no further trouble with him. Next evening he was sitting up. Was this case a coincident, or was it truth that the remedy was a specific antidote in this case?—it being the only case of the character I have ever seen, and, never having read of such, have been loth to report this single case. But when I remember that the physiological action of this agent is in the right direction; that it gives immediate power to the heart's action, and stimulates directly the capillaries of the entire system, may it not be a remedy that has more potency than we realize in such and various kindred conditions? Who has ever thus used it?

Norwegian Cod-Liver Oil.

The *Chemist and Druggist* says that M. Henry Labonne is relating in a French journal his personal experiences of Scandinavian pharmacy, and as he describes only that which has come under his own notice, many parts of his narrative are interesting. His recital is not limited to strictly pharmaceutical preparations, but he includes some passing notice of manners and customs, and sketches of the flora and fauna of the northern coast. Leaving what he calls the world of birds —for in some districts their numbers are almost incredible—he passes the well-known Lofoden Islands, and reaches the world of fishes. Continuing northward, Hammerfest is gained—a town redolent of cod-liver oil, and literally saturated with that remedy. The intense odor which permeates every street is due, in part, to the important oil factories, and to the thousands of the fish exposed to the drying action of the sun. The 2,000 or 3,000 inhabitants of Hammerfest—which is the most northern town in the world—are exclusively occupied in the preparation of the oil. A single boat, well equipped and provided with appliances, can take from 500 to 600 cod a day; but from their multitudinous eggs, there is no fear of the stock becoming exhausted. When the fish is landed, the head, which formerly was wasted, is removed, dried, and, in a state of powder, made into an excellent manure for soils poor in phosphates.

The actual process of the manufacture of cod-liver oil is then described, and it is shown how virgin oil is first got by very gentle pressure; how a second oil is produced by a species of cider-press; and a third—a dark-colored preparation—the result of heat employed in order to obtain the entire yield.

Clarifying Olive Oil.

Mr. Elwood Cooper, in the Santa Barbara *Press*, explains the process of filtering and clarifying olive oil. He says:

This is a simple process. The most common method is to have a series of five or six boxes, one above the other, each with cotton batting in the bottom; the oil passing the sixth will be beautifully clear and ready for market. I use cylindrical tin vessels holding about three gallons each, one fitting into the other, in tiers of three, with fine wire sieves in the bottom of each. On these sieves I place two or three layers of cotton batting. The oil is passed from one tier to the other until clear. Clarifying can be done by the sunlight; also, it can be bleached and made much lighter in color, but not without injuring it. When it is adulterated, artificial heat is necessary in the process. When once heated it loses a part of the nutty flavor, and is liable to become rancid when exposed to the air. It should be kept in an ordinarily cool place, not exposed to sunlight or heat; neither should it be handled any more than is absolutely necessary in the filtering and bottling, and should not be shaken after it is bottled. The mucilage contained in the oil will not separate for a long time after the oil is ready for use; and, as it does not injure it, is not, therefore, objectionable. It will sometimes form in the bottles like globules of water—in films, settling to the bottom as sediment, and when shaken will give it a muddy appearance, which, with the common prejudice against all table oils that are not perfectly clear, renders it unsalable, as consumers consult more the eye than the taste. The oil is better when new and fresh; and what is gained in appearance by its remaining a longer time in the tank, is more than lost in freshness and delicacy of flavor. To sum up the cost of the machinery used in making the oil, we have as follows: Drier, $150; mill, $250; two presses, $500; two tanks, $200; filterers, $50; corker and tin foiler, $50; wooden building, $400—total, $1600.

Tellurium in Bismuth.

In the *Chemist and Druggist*, Dr. J. O. Braithwaite says: I have specimens of subcarbonate and subnitrate of bismuth, both containing traces of tellurium. The sample of subnitrate contains about 0.076 per cent., the subcarbonate about 0.05 per cent.

As complaints with bismuth are not infrequent, it may be useful to recapitulate the method by which this unpleasant impurity may be detected. A fair quantity (I use 50 grammes to approximately estimate the tellurium present) is dissolved in excess of hydrochloric acid, and, if the salt is the subnitrate, heat until all the nitric acid is driven off, restoring the hydrochloric acid, which evaporates. To this acid liquid add an equal volume or more of a saturated solution of sulphite of sodium, and allow it to stand for at least twenty-four hours. If tellurium is present, it will slowly be reduced, appearing first as a reddish cloud, and finally as a black precipitate. This precipitate may be collected on a tared filter, dried at a low temperature, and weighed. The tests for this element are that it sublimes, giving a reddish sublimate; it burns with a blue flame, evolving a most peculiar odor. Fused with an alkali, it gives a reddish-brown compound, which evolves a fetid and unmistakable odor with hydrochloric acid. Three milligrammes of this precipitate gave a markedly unpleasant onion-like taste in the mouth for some hours after taking the dose.

Zinc is the only metal which is precipitated by nascent SO_2 under similar circumstances, so that its absence from the sample must be insured before applying the above test.

The Detection of Alcohol in the Body in Cases of Poisoning by It.

The *London Med. Record*, May 15, 1884, says: A case in which five days after death alcohol was procured by distillation from the brain and liver, set the author (MONTALTI) to find out: (1) whether, when the cause of death was not known, the expert had any means of showing whether alcohol was the cause of death; (2) how long after death could alcohol be detected chemically, the corpse remaining in the open air; (3) how long after death it could be detected when the corpse was under water. The tests used to distinguish alcohol in the distillate were two—namely, bichromate of potash with sulphuric acid, and caustic potash with iodine. Eight experiments were made in all. The animals selected were rabbits. Four were allowed to putrefy in the air, four under water. The results were somewhat surprising. The possibility of discovering the spirit depended on the stage of putrefaction, whether the body had been exposed to air or to water. Even after so long a period as twenty-four days had elapsed from the time of death, alcohol was still to be found in the liver. The weather, too, at the time was somewhat warm, and decomposition was far advanced. The author, in summing up, says that the quantity of alcohol found, taken in connection with the stage of putrefaction, will enable one to say approximately whether acute alcoholism was the cause of death or not. The lungs and brain, too, are always found hyperæmic in death from alcohol. The spirit is found especially in the liver, brain, and spinal cord; and, as these organs are very much larger in man, a proportionately greater quantity would be found in the human subject. The importance of testing for alcohol is then pointed out.

Picrotoxin in Porter.

In the *Canadian Pharmaceutical Journal*, P. JACKES, says: On the evening of March 10th a few friends at my house partook of a glass of porter, made by a prominent brewer. A rather persistent bitter taste was noticed at the time; but the party separating, the result was not fully known for a day or two. I took a glass of the porter myself, and, upon inquiry, found that the symptoms of the others were very similar to my own, which were as follows: Restlessness and almost entire loss of sleep; gastro-intestinal irritation, dizziness, and weakness of the lower limbs. The symptoms passed off at the end of two days. Suspecting that cocculus indicus had been used in the porter, I took a sample, evaporated it to dryness in a water bath, digested with hot alcohol, filtered, and, after decolorizing with animal charcoal, filtered again and evaporated again to dryness. The residue dissolved in sulphuric acid with a yellowish color, and on putting a few drops of the sulphuric solution on a porcelain plate, and adding a crystal of potassium bichromate, a purplish-blue color was produced, changing to red-brown, and finally to green. The re-action something resembles strychnine, only pure strychnine dissolves in sulphuric acid without color, and the addition of potassium bichromate produces a violet, changing to red. Both are intensely bitter.

From the effects produced by one glass, the result of taking two or three glasses at one time might be exceedingly serious, if not fatal.

Dynamite.

The *Druggists' Circular* says: Although dynamite is less dangerous to handle than nitro-glycerin, its preparation, involving as it does the nitration of the glycerin, is not less easy nor is it safer. When the glycerin enters the mixture of nitric and sulphuric acid, the reaction takes place with such violence as to produce a large amount of heat.

According to the Polytechnisches Notizblatt, a much safer method is now in use by Boutmy & Faucher in their powder works. Here the operation of nitrating takes place in two stages. The glycerin is first converted into a sulpho-acid by the action of strong sulphuric acid. An acid mixture is prepared separately from equal parts of nitric and sulphuric acid. The two liquids are then mixed. The sulpho-nitric acid absorbs nearly as much heat in liberating the glycerin from its combination as is formed by its combining with the glycerin; hence, it acts as a refrigerant to keep it cool, and the process is not attended with much increase of temperature.

In the new process the nitro-glycerin is not formed so suddenly as in the old way, but slowly and steadily, settles rapidly, and can be easily washed, while the yield, it is claimed, is greater. Nevertheless, Boutmy & Faucher have taken every precaution to avoid explosions and to protect the workmen from fumes.

Poisoning by Herrings.

The *London Med. Record*, May 15, 1884, says: In the *Vratch*, No. 2, 1883, p. 27, Dr. V. Tchugin details three cases of poisoning which occurred in a pauper family, in three previously healthy children, aged 13, 6, and 3, after the patients had eaten several salted herrings. They presented the following symptoms (which began to manifest themselves within a few hours after the meal): nausea, vomiting, constant agonizing pain in the stomach, intense thirst, tympanites, constipation, anuria (in one), præcordial pain, weakness of the pulse, indistinctness of the cardiac sounds, paleness and œdematous swelling of the face, headache, ptosis (in one), dilatation of the pupils, sleeplessness, general weakness. The two younger patients died, one in three, another in five days from the appearance of the first symptoms. The third patient slowly recovered (in three weeks). On the *post mortem* examination there were found hyperæmia of the cerebral dura mater; accumulation of a reddish serous fluid in the cavities of the pleura, pericardium, and peritoneum; and hyperæmia of the gastro-intestinal mucous membrane, and of the liver. Chemical examination gave negative results.

III. MATERIA MEDICA AND THERAPEUTICS.

Small Doses Frequently Repeated.

So much has been claimed for this method of medication that we reproduce the following, by Dr. John L. Davis, from the *Cinn. Lan. and Clinic*, May 24, 1884: Fashion in therapeutics has wrought marked changes in half a century. Following severe depletion and depressant measures naturally came the opposite extreme in medication, represented by excessive stimulation and its concomitants. And during the past twenty years, a more or less judicious combination of both plans has characterized progressive medical practice. Medicine is given in moderation; the patient is supported, and nature is assisted in her efforts in his behalf. Very recently, however, the question has arisen, whether we cannot secure better results more agreeably by the administration of small doses frequently repeated, particularly in acute diseases. The advocates of minute, frequent doses claim for their method the following advantages over the usual plans of medication:

1. The physiological action of the remedy is more quickly secured, and a less amount of medicine is required.
2. The action of evanescent medicines, such as stimulants, can be made more continuous.
3. The personal peculiarities and susceptibility of patients can be better observed and consulted.
4. The medicine is more easily administered.

These are recognized as important advantages, and the only question is, Can they be obtained by giving small, frequent doses?

Ringer highly endorses, under certain circumstances, such minute doses as one-third of a grain of gray powder; one-twelfth of a grain of calomel; one-sixty-fourth of a grain of tartar emetic; two drops of tincture of assafœtida; one drop of nux vomica. These doses vary in size from one-fifth to one-thirtieth of the usual dose as given by the U. S. Dispensatory, though as a rule they are to be repeated oftener than the ordinary dose.

Fothergill says that the old-fashioned drug, epsom salts, is a most excellent laxative for children in five-grain doses. And we know that the laxative effect of natural mineral waters is often due to a still smaller amount of the salt.

Bartholow and Wood both recommend minute doses of various drugs under certain conditions. For more than a year, as opportunities have offered, I have experimented with small, frequently repeated doses, and have carefully recorded the results. These I present to-night, and as far as they are of value, I ask your attention to them.

1. *Mercury.* Sept. 1, 1883, I was called to see a delicate infant which for ten

weeks—since the middle of June—had suffered from diarrhœa. During the whole period it had been under the treatment of various physicians; but it appeared to be getting worse. When first seen by me, it was having twelve or fifteen thin, greenish, offensive evacuations daily, and was exceedingly debilitated and emaciated. The family had given up all hopes of its recovery, and in my opinion the prognosis was very grave. It was ordered one-eighth of a grain of calomel and three grains of sugar of milk hourly. Within a few hours the dejections became more natural, and the child almost immediately began to improve. The next day its condition was so much better as to excite the wonder and gratification of the family, who were excessive in their praise of the powder. In a week the child was well. This is a typical case of long-continued infantile diarrhea of unusual severity. I have notes of eight other cases of the kind, though none of them were as severe as this. In all of these cases the treatment consisted in the administration of minute doses of calomel—one-tenth to one-thirtieth of a grain, repeated every thirty minutes or one hour at first, and later at longer intervals. In every case without a single exception the treatment succeeded admirably. The same drug I have given to several adult patients in the condition characterized as 'bilious,' from one-third to one-half of a grain every hour or two; and thus given, it has invariably acted much more promptly and agreeably than the ordinary large dose of calomel or blue mass.

Calomel has also proved a very efficient remedy in children's dysentery, characterized by frequent bloody or mucous stools attended with tenesmus. I have notes of six cases treated with an average of one-third of a grain every half hour for four doses; then hourly, and finally every two or three hours. In this limited number of cases, the drug thus given has acted quickly and well in restoring the condition to the normal.

At the suggestion of a medical friend of large experience, in five cases of infantile dysentery, I have used the bichloride of mercury; giving to a child a year old the one two-hundredth of a grain every hour for three or four doses, and then less often. Improvement usually followed in a few hours, and in every case recovery was rapid. The bichloride of mercury in small, frequent doses is highly recommended also in the dysentery of adults; though personally I have not had an opportunity for trying it.

Gray powder (hydrargyrum cum creta) I have used used in eight cases of entero-colitis ("summer complaint"), with the most satisfactory results. It has been given every hour in about one-fourth grain doses. In all cases as the condition improves the remedy should be given less often.

In all of these cases in which mercury was used, particularly in diarrhœa and dysentery of children, numbering in all twenty-eight cases, it has acted remarkably well. Every case, though some were of the severest kind, improved almost from the first dose.

With regard to mercury, Ringer says, "small doses yield excellent results in a form of diarrhœa common in children. The child's health is bad; the digestion is imperfect, generally with annoying flatulent distension, and three or four pale, clayey motions a day. Even when this condition has lasted some weeks, a single grain of the bichloride of mercury dissolved in half a pint of water and a teaspoonful given every hour—or better still, one-third of a grain of gray powder every hour or two—will in one or two days restore to the stools their natural color and frequency," and again he says, "For biliousness it is common to give one or two nights a purgative dose of some preparation of mercury; if no constipation exists, better results are obtained from small doses of gray powder frequently given—one-sixth to one-half a grain two or three times a day. If so used, we should not have the bad effects which cause practical doctors to decry its use."

2. *Arsenic.* This drug I have given in four cases of vomiting of pregnancy, in which other remedies had failed. In three cases it was of very great benefit, but in the fourth it had no effect whatever. The one-hundredth of a grain of arsenious acid was given every fifteen minutes until four doses had been taken, if so many were needed. But with three of the patients, one or two doses invariably checked the vomiting; so no more was required at that time. I have also given small doses of Fowler's solution in obstinate cases of "sick headache." From the record of seven patients treated with minute doses for this affection, two were not benefited in the slightest; one was helped a little; four were very much relieved by it, and in one case the medicine gave such immediate relief that the lady keeps it constantly at hand, as an unfailing cure for her headache. In all these cases, Fowler's solution was given in half drop doses every fifteen minutes until four or five doses had been taken; if benefit is to result, it will usually be manifested by that time.

3. *Belladonna.* This is another remedy I have given in small doses to relieve "sick headache." In one case the patient claimed to be made worse by the medicine. Seven others were improved, five of them very much relieved and benefited. One of these had previously been given Fowler's solution without avail, but a drop of belladonna tincture every fifteen minutes gave relief after three or four doses. Another patient was a young girl, who for three years had scarcely passed a week without an attack of this distressing headache. In her case one or two two-drop doses of the tincture of belladonna invariably gave relief. In the form of sore throat which is attended with great soreness or rawness, without any very marked signs of inflammation, I have found the following prescription to be of great benefit:

℞.	Acidi carbolici	gr. iv.
	Ext. belladonnæ	fl.m. v.
	Glycerinæ	℥j.

A half drachm of this, containing only one-third of a drop of fluid extract of belladonna, given every hour, usually affords speedy relief. The carbolic acid solution alone is not sufficient. How belladonna acts in such minute doses we are unable to explain, but in many cases the results are remarkable.

4. *Gelsemium.* In nine cases of neuralgic headache and neuralgia of the fifth nerve, this remedy was given, two drops of the tincture every fifteen or twenty minutes. In five of the cases, it had no perceptible effect, although in one of these, it relieved the pain when given in the ordinary large dose. Four patients of the nine were much benefited, and in two, relief followed soon after the second dose of two drops.

5. *Turpentine.* The dose of this drug as recommended in typhoid fever is not

less than fifteen drops every three hours. But in the treatment of twenty-two cases of typhoid fever, I have never given more than two drops at a dose; for this has always seemed sufficient to overcome the dryness and coating of the tongue, and with the addition of subnitrate of bismuth, when necessary, to check hemorrhage. At present I have under treatment two children with typhoid fever, and although the temperature has reached 104½° and 105° in the two cases, they are now progressing finely. In these cases the amount of turpentine given is 1¼ drops every two hours. From my experience with the remedy I can unhesitatingly recommend small doses of turpentine for cleaning off the tongue, which of course is simply the index of the condition in the intestinal tract.

6. *Ipecac.* The wine of ipecac, one drop three times a day, is recommended by Ringer, for the vomiting of pregnancy. For this purpose I have not had opportunity to use it. But on three occasions, for ordinary simple nausea and vomiting, I have given $\frac{1}{50}$ of a grain of powdered ipecac, repeated in half an hour. With all three patients the remedy succeeded after two or three doses. One of the patients has taken the powder on three occasions, and always with speedy relief.

7. *Tartar emetic.* On Jan. 28, 1884, I was called to see a little girl who had been playing out doors, and, as her mother said, "took cold," to which she was very susceptible. Fever was not marked, nor was the pulse much accelerated, but the chest was filled with sibilant and large, bubbling rales, and in addition to the ordinary symptoms of a bronchitis, there was a wheezing—the almost asthmatic breathing—often found as a result of "catching cold." The rales and wheezing could be heard at the other side of the room.

I dissolved half a grain of tartar emetic in a glass of water, and ordered a teaspoonful every fifteen minutes, for three or four doses, then hourly, and after that every two or three hours. In a few hours the rattling, wheezing in the chest had disappeared, and the following day the girl was as well as usual.

The case belongs to a common class of winter ailments, and the only remarkable feature is its ready yielding to $\frac{1}{100}$ of a grain of tartar emetic. The same dose I have used in several other cases, always with success.

8. *Bromide of potassium.* The same condition has in two instances yielded as singularly to one-third grain doses of bromide of potassium every fifteen minutes.

9. *Iodide of potassium.* A common and distressing effect of "taking cold" is congestion, or perhaps inflammation of the frontal sinuses, causing a dull headache between the eyes. I have notes of eleven cases of this form of headache, every one of which yielded quickly to minute doses of iodide of potassium. It is most easily given by dissolving two grains in half a glass of water, and having the patient sip this in the course of half an hour. I can highly recommend this as a simple and very efficacious remedy for frontal headache.

10. *Castor oil.* This is mentioned as an efficient laxative in frequently repeated five-drop doses. But apart from this action, in some instances it has a remarkable influence in stimulating the secretion of milk. In the case of a lady whose milk secretion was not free, five drops of the oil three times a day were given. She said that two or three hours after the first dose she felt a relief in the mammary glands, and soon the secretion was very much promoted. After a second confinement, she had recourse to the same remedy, with equally gratify-

ing results. And subsequently, upon her recommendation, a lady friend has taken the five-drop dose, with the same effect.

My experience with minute doses of castor oil is limited to these two cases; whether here the action was unusual I cannot say, but we know that locally applied the drug is a valuable galactagogue.

11. *Ergot.* In six cases of premature labor pains, threatening miscarriage, I have given small doses of ergot to check muscular contractions. Five drops of the fluid extract every half hour were given for four or five doses. In four cases the pains were soon controlled, and did not recur. In the fifth case the ergot had at first but slight effect, but in about twenty-four hours, after nearly two drachms had been taken, the contractions gradually diminished, and finally stopped altogether. They, however, reappeared twice subsequently, but both times yielded more readily to the minute dose of ergot.

In the sixth case the woman was in the third month of pregnancy, and as a result of jolting in alighting from a carriage, labor pains began. She was given small doses of ergot, but the pains became stronger and more threatening. The ergot was discontinued, and large doses of opium and camphor were given, without modifying the condition. This treatment was then abandoned, and as a final resort I had recourse to a drug that had upon two or three previous occasions saved the day. I ordered two grains of the extract of black haw (viburnum prunifolium) every two hours, and to my satisfaction the uterine contractions lessened in force, and by the following day had altogether ceased. That was two weeks ago, and the pains have not returned.

12. *Phosphoric Acid.* This is the last drug that I shall speak of, and my experience in giving it in small doses is limited to three cases of sweating in phthisis. In all it has acted remarkably well. The most obstinate case had been given atropia, piperina and oxide of zinc, each in its turn, without checking the excessive sweating. As a last resort, phosphoric acid was tried, for I had seen it recommended. The very small dose of five-eighths of a drop of the dilute acid every hour was ordered, and only two doses were needed. Half an hour after the first dose there was appreciable lessening of the sweating. In this case the acid has been given on several occasions, with always the agreeable result above noted. The other two cases were not so severe, and both yielded readily to the small dose.

The results of my investigations with these medicines in small, repeated doses, are given as they occurred, whether favorable or otherwise in their character. The number of cases is not large enough to warrant any very definite conclusions, but certainly for further work a fruitful field lies before us. Why and how the minute doses produce such remarkable effects we can not explain, but in many cases we are confronted by the unmistakable fact that they do. The sixtieth of a grain of atropia will dilate the pupil. But if the sixtieth of a grain is divided into 10,000 parts, a single one of these has an appreciable effect on the eye. How does the inconceivable atom act? How much of it enters the blood? How does it stimulate the nerve? Further study must answer.

In conclusion I must express my regret that in the absence of hospital and dispensary facilities, my investigations could not be upon a larger scale. For they have necessarily been confined to persons who are practically patrons, and, as a consequence, the experiments have suffered a natural limitation and restraint not vouchsafed to the ordinary charity patient.

Palatable Prescriptions.

Dr. JOHN L. DAVIS at a recent meeting of the Cincinnati Medical Society read an interesting practical paper, which we find in the *Lancet and Clinic* of that city. We reprint below the most important portions of the article. Dr. Davis says:

It is with the view of suggesting agreeable and appropriate vehicles for some of the most repulsive drugs, that I offer the following prescriptions. They are the result of a great many experiments, and most of them I have used in practice and can recommend as the best combinations possible without modifying the drug in such a way as to affect its action. I have attempted to marshal these unruly drugs under something approaching order; though I confess the classification is far from being a perfect one. A few drugs of each class will suffice to illustrate how the whole class may be improved.

1. *Bitter drugs.*—These comprise a very large class of unpalatable medicines; the climax of bitterness is reached in the cinchona bark. The best prescription for masking the taste of quinine is:

℞.	Quiniæ sulphatis	gr. xxx.
	Tinct. aurant. cort. recentis	ʒ ij.
	Ext. glycyrrhizæ fl.	ʒ vj.
	Syr. simplicis	℥ j.

Or it may be given with the aromatic syrup of licorice. Simply chewing a piece of licorice root before and after taking the quinine will very effectually hide its bitter taste. The same methods for administration apply equally well to most other bitter medicines. In the *American Journal of Medical Science*, Dr. Samuel Ashhurst of Philadelphia describes an agreeable method for the exhibition of cinchonia. He uses the alkaloid rather than the more usual sulphate; for while being equally soluble in the stomach, it is less so in the saliva, and consequently its bitterness is less marked than that of the sulphate. His prescription is:

℞.	Cinchoniæ	gr. j.
	Sac. lactis	gr. iv.
	Sodæ bicarbonatis	gr. $\frac{1}{10}$.

The soda renders the alkaloid less soluble in the mouth, while the sugar of milk gives it an agreeable, sweet taste. Children take this powder without the least aversion.

The thick, viscid elixir of taraxacum is also a valuable vehicle for the administration of medicines. And finally it may be said of these, as of all medicines, that if taken very cold, or if a piece of ice is taken into the mouth immediately before the medicine, the objectionable taste will be less marked.

2. *Salty and metallic drugs.*—A large class of unpalatable drugs is included under this head. The best prescription containing iodide of potassium is the following:

℞. Potassii iodidi	ʒ ij.
Tinct. aurant. cort recentis	℥ j.
Ext. glycyrrhiz. rad. fl.	℥ j.
Syr. simplicis	q. s. ad ℥ iij.

Of this each teaspoonful contains five grains, and the iodide is so perfectly disguised that persons who have been accustomed to its use fail to recognize its presence. For this combination I am indebted to Mr. Julius H. Eichberg, the skillful and efficient druggist of the Cincinnati Hospital. The vehicle is eligible also for the administration of the bromide of potassium. A syrup of coffee is highly recommended to hide the taste of the iodide—fifteen grains to the ounce. The same vehicle can be used for the bromide, except in cases where the stimulant effect of coffee is to be avoided.

A simple and somewhat effective way for administering the iodide and bromide as well as salicylic acid is in milk—ten grains to the ounce. Another mode for giving these drugs is to use as the vehicle slightly alkaline carbonated water, either natural or artificial.

The syrup of the iodide of iron is a useful medicine, which is best given simply with the fluid extract of licorice root: this is preferable to the ordinary succus glycyrrhizæ. A medicine peculiarly disagreeable to many persons from its bitter, salty taste is magnesium sulphate. The following prescription offers an elegant means for its administration:

℞. Magnesii sulphatis	ʒ ij.
Acidi sulphurici	gtt. v.
Glycerinæ	gtt. v.
Aquæ	q. s. ad ℥ j.

Half of this in a glass of water constitutes an agreeable dose of an ordinarily repulsive substance. By the addition of a drop or two of mint the mixture becomes not only palatable but attractive.

3. *Astringent drugs.*—Tannin is the representative of a class of remedies repulsive by reason of an astringent, acrid taste. This may be materially improved by the addition of sugar of milk and aromatic powder. I have also ordered it with powdered licorice, which materially improves the taste. Salicylic acid may be given in powder the same way. When alcohol is not objectionable, the following combination will be found useful and agreeable:

℞. Acidi salicylici	gr. viij.
Spir. vini Gallici	m. xl.
Syr. acaciæ,	
Syr. limonis	aa. ♏x.

Chloral, besides having an acrid taste, is burning and penetrating; and these qualities make it a most difficult substance to disguise. I have seen some alleged palatable prescriptions of this drug, in which the only thing disguised and perfectly hidden was the aromatic vehicle, the taste of the chloral being apparently reinforced and concentrated. The best combination containing this drug is a suggestion of Mr. Eichberg. It is this:

℞. Chloral hydratis	gr. v.
Glycerinæ	ʒj.

Or, it may be still further improved, thus:

℞.	Chloral hydratis	gr. xx.
	Glycerinæ	ʒ ij.
	Ext. glycyrrhyz. rad. fl.	ʒ j.

Each drachm of which contains six and two-thirds grains of chloral. These same vehicles may be used in giving croton chloral hydrate, a remedy which is remardably beneficial is some cases of facial neuralgia.

Another convenient and agreeable vehicle is syrup of raspberry, a drachm of which covers the taste of three or four grains of chloral.

4. *Ethereal drugs.*—The syrup of raspberry is also valuable to conceal the disagreeable character of sweet spirits of nitre; when taken with this syrup in soda water, the drug is not tasted.

Sulphuric ether is best given on a lump of sugar; chloroform has a hot, burning taste, which is best modified by an emulsion; or it may be given with a large quantity of simple elixir.

5. *Odorous drugs.*—A certain class of drugs is disagreeable more from odor than from taste. Such are carbolic acid and creasote, very repulsive to some persons. The unpleasant character of the former is fairly hidden by simple elixir, five grains of the acid to the ounce. The best way to give creasote is with simple elixir or syrup and Madeira wine.

Iodoform has a very objectionable odor, and one method for disguising it is the addition of tannin. The compound has a less disagreeable odor than iodoform, but this improvement is made by destroying the iodoform by the formation of a different substance. Such prescriptions of course are improper. The offensive odor may be removed by the addition of various substance, without affecting in the slightest the physiological action of the drug. The best combinations are the following:

℞.	Iodoformi	ʒ j.
	Nitrobenzol	gtt. iij.
℞.	Iodoformi	ʒ j.
	Ol. myristicæ	gtt. ij.
℞.	Iodoformi	ʒ j.
	Eucalyptol	gtt. iv.

All of these prescriptions are excellent; the disagreeable odor is perfectly removed; while the properties of the iodoform remain unaltered. Some samples of these combinations prepared two years ago show as yet no trace of the odor of iodoform, though the activity of the drug is unimpaired. The odor may also be hidden, though less effectually, by oleum myrciæ (oil of bay) and tonka bean, or its active principle, coumarine.

Nitrobenzol constitutes an agreeable cover for the odor of turpentine. The following is a prescription which I have used:

℞.	Ol. terebinthinæ	♏ x.
	Mucilage acaciæ syrupi	āā ♏ xxv.
	Nitrobenzol	gtt. j.

In some cases turpentine may be best given in pill form. And the same may be said of many of the resins and gums.

Assafœtida is a substance which the Persians use as a condiment, to give their food a pleasant taste. Personally I should prefer to take it in a gelatine-coated pill, which is the least disagreeable method for its administration.

Given in liquid form, it is an exceedingly repulsive drug, whose odor and taste cannot be effectually covered. By the addition to the tincture of a drop or two of oil of orange, and a few drops of aromatic sulphuric acid, its nauseousness becomes slightly less obtrusive. This is somewhat preferable—if there can be a choice in repulsive things—to the ordinary emulsions and mixtures containing licorice, tincture of orange, mint, etc.

Ipecac has a repulsive, acrid taste, even as syrup. If, however, instead of sugar, glycerine is used in making the syrupy mixture, the objectionable features are materially improved.

6. *Oils.*—Such oils as that of copaiba are best given in capsule. But some persons are so constituted as to be unable to swallow capsules, and for such our only refuge is found in emulsions, such as that of bitter almonds flavored with an essential oil.

Castor oil is most easily given with an equal amount of glycerine, and a drop of oil of cinnamon to the ounce. The oil is not recognizable, and the mixture has only the hot, sweet taste of glycerine, agreeably modified by cinnamon. This is the best way to give this valuable medicine to children. It is also readily taken by children when mixed with coarse brown sugar, and having the mass made firm by placing it for a few minutes on ice (*Berl. Klin. Wochen*).

A method for its exhibition suggested by Dr. Potain (*Le Practicien*) appears to answer the purpose. A spoonful of orange juice is poured into a cup, then the oil is added, and finally another spoonful of orange juice. When swallowed the presence of the oil is completely unrecognizable.

The following elaborate prescription has been suggested: In a tumbler pour six drachms syrup of sarsaparilla, then add ten grains of bicarbonate of soda, and stir. Add then one fluid drachm of a saturated solution of tartaric acid; the reaction will cause a heavy, viscid froth. Then pour an ounce of water gently down the side of the glass, so it will reach the bottom with the least disturbance of the other ingredients. Finally the oil is to be added without agitation, and the mixture taken. It is undoubtedly perfectly palatable, but its preparation demands an unreasonable amount of work, and it is not practicable. Another very palatable mixture is open to the same objection:

R.	Ol. ricini	℥ j.
	Ol. anisi,	
	Chloroformi	āā gtt. x.
	Shake, and add mucilag. acaciæ	℥ ss.
	Shake again, and add water	℥ ss.

By far the simplest and most eligible palatable prescription containing castor oil is that made with the addition of glycerine, with or without cinnamon.

A very nauseating and unpalatable medicine is cod liver oil. Many attempts have been made to cover its taste. One of the easiest methods for its administration is with the yellow of an egg, a drop or two of an essential oil, and half a glass of sweetened water; or it may be given with glycerine and whisky, or glycerine and compound spirits of lavender. The oil may be much modified, and, to some tastes, improved, by the addition of ten drops of the tincture of eucalyptus globulus to the ounce.

The following method for making a palatable preparation is worthy of consideration and investigation; I have not tried it, but the theory appears plausible:

Take of Cod liver oil	1,000 parts.
Coffee	50 "
Animal charcoal	25 "

Place in a well closed flask, and digest on a water-bath for one hour. Set aside for three days, occasionally shaking; then filter. The oil is then said to have an agreeable coffee flavor and a pleasant odor. (Carlo Pavesi.)

The medicines I have mentioned are those ordinarily most difficult to administer. I have spoken of them as we have them, without attempting any other improvement than can be made by the addition of various substances. But in most instances our medicines may be made still more agreeable by concentration, and by the use of the active principles, as the alkaloids of drugs.

And in some diseases, too, it will be found that medicine may be made not only less discomforting to the patient, but of greater benefit, by giving it in smaller doses than are now common, though more frequently repeated.

*A Clinical Note on Kairin.**

Dr. **Robert S. Archer** thus writes in the *Brit. Med. Jour.* April 12, 1884: Kairin is described in chemical language as oxy-chinolin-methylhydrate, the formula for it being $C_{10}H_{13}NO$, and is an artificial alkaloid, prepared from chinolin ($C_9H_7\ O$). It was discovered by Fischer and König, and its therapeutical action investigated first by Filehne and other German physicians. It is a yellowish white crystalline powder, with a rather acrid disagreeable bitter taste. It is soluble in water; but, on account of its taste, is recommended to be prescribed in gelatine capsules. (We used it in mucilage and water.) It has no perceptible odor.

Case.—Wm. H., aged 19, was admitted to hospital on Wednesday, November 14th, 1883, at 11.30 a. m., suffering from enteric fever. We could not procure a history of the case, and were therefore unable to judge accurately of the day of the fever.

November 14th. On admission, his pulse was 124; temperature 104.6°; and respiration 36. The tongue was dry in the centre and moist at the edges. There were rose-colored spots scattered over the abdomen. He was very heavy and stupid looking, aspect rather livid; no abdominal distension nor apparent tenderness; sordes on teeth; almost comatose, and quite helpless.

November 15th. He had passed a restless night; in other respects, he was much the same as yesterday, with the addition of a good deal of congestion of the left conjunctiva and some bleeding from the gums. At my visit at 11 a. m., the pulse being 128 and dicrotous, respiration 42, and temperature having risen to 104.6°, it was determined to try kairin in 7½ grain doses. The first dose was not given till 2:30 p. m., when the pulse was 124, respiration 40, and temperature 103.3°. One hour after the kairin was given, the pulse was found to have fallen ten (10) beats, the respiration was unaltered, and the temperature was less by more than a degree and a half (1.5°). The patient was dozing, and the skin moist. 4:30 p. m., the pulse was 108, dicrotism gone; respiration 32, temperature 100.5°. The patient was sleeping, his skin perspiring freely. Another dose of kairin was given. 5:30 p. m., pulse 108, respiration 30; a further fall of temperature to 99.9°; sleeping; skin soft, but not perspiring. He had half an ounce of brandy at 5 p. m. No kairin was given. 7 p. m., rigors; half an ounce of brandy hot. 7:15 p. m., temperature had run up to 105.6°; pulse could not be counted at the wrist, but at the heart 130 beats were registered in the minute; respiration 40; skin dry; extremities livid; 7½ grains of kairin were given. It will be noticed that, on the omission of kairin for an hour and three-quarters, the temperature had run up 5.7°, the pulse had become imperceptible at the wrist, and, on the whole, the patient may be said to have been almost moribund. At 7:30 p. m., that is, a quarter of an hour after the kairin was given, the temperature had fallen close on a degree; the pulse was 126, could be counted at the wrist, but was slightly intermittent; respiration continued the same (40); skin soft, lividity had passed away; patient apparently dozing. 8 p. m., there was a further fall of temperature of nearly a degree; pulse 126, regular, not intermittent nor dicrotic; respiration 36; perspiring freely; dozing; slight cough; a few bronchial *râles.* 8.30 p. m., a slight rise in temperature, the medicine having been omitted for an hour and a quarter; therefore, a dose was given, with the effect that at 9.45 p. m. the temperature had fallen a little over a degree; pulse remaining the same, and respiration having risen slightly; skin moist; patient sleeping. Half a dose (3¾ grains) was given, hoping that it might keep the temperature under control. 11 p. m., there was a slight rise of temperature to 103.1°; pulse 119; respiration 32. Half a dose was given. 12 midnight, the temperature having risen half a degree, there also being a slight increase in the pulse and respiration rates, it became evident that the half doses, although probably exerting some control, were not sufficient, therefore a full dose was given.

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* Read at a meeting of the Liverpool Medical Institution.

November 16th, 1 a. m., pulse 120, respiration 34, temperature 102.4°. Perspiring freely, quiet, but not sleeping. Kairin, 7½ grains. 2 a. m., Pulse 108, respiration 38, temperature 100.7°; 7½ grains of kairin. 3 a. m., temperature 98.7°. 3:45 a. m., patient was reported to have begun to shiver, became flushed and then livid, accompanied by an increase of the tremors. 4 a. m., temperature 100.2°. 4:20 a. m., Dr. Oldham was called up, and found the patient "shaking all over like a man in the cold stage of ague, respiration over 60, loud and snoring, pulse at wrist scarcely perceptible, and could not be counted." He was given half an ounce of brandy hot, after which the patient spoke rationally. 4:40 a. m., brandy, one ounce, hot. 4:45 a. m.. respiration 44, and fuller. Still moaning. Somewhat livid about face and extremities. 5 a. m., respiration 44, temperature 105.7°; kairin 7½ grains. 5.30 a. m., pulse 160, more perceptible; respiration 44, but not snoring as before; temperature 105.4°; rigor almost subsided. 6 a. m., pulse 130, full, respiration 34, temperature 105.2°; perspiring; kairin, 7½ grains. 7 a. m., 101.2°, showing a fall of four degrees in an hour: 3¾ grains of kairin. 8 a. m., temperature 99.5°; 3¾ grains of kairin. 9 a. m., temperature 97.6°; 1⅞ grains of kairin. 10 a. m., temperature 100.4°. 10:30 a. m., temperature 102.3°. Shortly after this another rigor supervened, the face and extremities becoming somewhat livid. 11 a. m., pulse 140, to be felt with difficulty; respiration 44, noisy; temperature 105.5°, that is, showing a continuous rise of nearly seven degrees since the last dose of medicine nearly two hours before; 7½ grains of kairin, ½ ounce of brandy every hour. 12:30 p. m., pulse 150, respiration 44, temperature 103.5°. Tongue cleaner, expression clearer; conscious, and answered direct questions; passes his urine in bed; it stained the sheets of a greenish color; 7½ grains of kairin. 1:30 p. m., temperature 102°. 2:30 p. m., pulse 126, respiration 44, temperature 103.9°, showing the tendency to rise; 3¾ grains of kairin. 4 p. m., pulse 136, small and feeble; respiration 52, shallow; temperature 101°; quite conscious to all going on around him. 6 p. m., pulse 144, counted at heart, could not be felt at wrist: respiration 60, temperature 103.6°. Rigors again, commencing with rigidity; two motions from bowels during afternoon; 7½ grains of kairin, shortly after which the pulse could be felt beating feebly at the wrist. 7 p. m., pulse 148, respiration 54, temperature 103.8°. 7:45 p. m., 7½ grains of kairin. 8:30 p. m., pulse 170 at heart, respiration 60, temperature 102.6°. 9:30 p. m., temperature 101.7°. 10:30 p. m., temperature 100.8°. 11:30 p. m., temperature 104.6°: 7½ grains of kairin.

November 17th, 12:30 a. m., temperature 103°. 1.30 a. m., pulse 170 at heart, respiration 60; cold sweat all over the body; extremities cold; moribund. 2:30 a. m., temperature 105°; death.

From the time that kairin was commenced at 2:30 p. m., on November 15th, till his death, about 36 hours, 9.625 grammes, or 144.375 grains, were administered.

At the time the patient was admitted to hospital, his case was manifestly a desperate one; and on two or three occasions, when he was to all appearance about to die, kairin apparently seemed to have a great influence in assisting to resuscitate the flagging vital powers, and we had some slight hope of rescuing him, bearing in mind an aphorism of Graves to the effect that "as long as life last, no matter how fatal the symptoms may appear to be, you should never despair of recovery in fever."

Dr. Filehne (*Berliner Klinisch Wochenschrift*, No. 16) lays down some definite rules for the administration of kairin, which it may be as well to give here in their entirety, for the guidance of those who may be inclined to make a trial of the drug. He writes to this effect:

"It is advisable to commence with doses of 8 grains per hour on the first day, and to give these say four times successively, but to cease as soon as the temperature has attained 100°F. The temperature should be observed every two hours, or, if possible, every hour, during the first day. As soon as the temperature has been lowered by the above doses to about 100° F., only four grains should be given per hour until the temperature is again perceptibly rising, when the former dose of 8 grains should once, more be administered. This dose of 8 grains has to be administered at once, should the patient feel the least chilliness. The patient has to be particularly instructed to immediately report such chilliness, or rather meet it by a dose of 8 grains. Should it occur that 8 grains per hour have not had the desired antipyretic effect after four administrations, doses of 16 grains should be given twice, three, or four times, at intervals of one hour; when, on the other hand, the action of 8 grains per hour is perceptible after four hours without proving sufficient, 12 grains are given about four times, at intervals of an hour. The doses of 16 or 12 grains per hour should be discontinued when a temperature of about 100° Fahr. is attained, keeping a reserve dose of 16 or 12 grains respectively in readiness, to be taken at once in case the patient feels the least chilliness. When the temperature has again risen within two to six hours, the administration of kairin is to be resumed. As the human organism neither gets accustomed to this remedy nor shows a cumulative effect from kairin, a single day's careful experimenting, as indicated above, will be sufficient to regulate the dose afterwards. When the weight of the body or the condition of nourishment is excessively low, and in cases of hectic fever, smaller doses should be tried at first. The urine which is passed during the administration of kairin possesses a blackish green color."

Dr. Paul Guttmann (*Berliner Klinisch Wochenschrift*, No. 31) has used kairin 72 times in 42 patients, including cases of pneumonia, measles, phthisis, typhoid fever, scarlatina, pleurisy, peritonitis, erysipelas, ague, and septicæmia. The drug was given at periods when, in the normal course of the fever, the temperature would not be expected to remit. In most of these cases, the temperature ranged from 103° Fahr. to 105° Fahr. at the time of observation. A gradual fall of temperature was noticed after a dose of eight or sixteen grains every hour, so that in three or four hours a marked depression occurred, in several cases reaching the normal line. Sweating and a fall in the pulse-rate were also observed (as in our case) to follow its administration. No unpleasant symptoms were noticeable. It was observed that repetition of the dose did not lessen the antipyretic action, and also, that discoloration of the urine commenced about twelve hours after the first dose, and continued forabout twenty-four hours.

An interesting case is reported (*Berliner Klinische Wochenschrift*, September 10, 1883,) by Dr. Knipping. A woman, aged 20 years, suffered from puerperal pyrexia. Fourteen days after labor, symptoms of parametritis manifested themselves, which were followed by periphebitis of one leg, and then of the other, the temperature running up to 105° Fahr., and the pulse varying between 120 and 130. On the thirty-fourth day, with a temperature of 106.4°, and the heart evidently failing, kairin was commenced in eight-grain doses, in gelatine capsules, every hour. The temperature descended more than four degrees, accompanied by profuse sweating after the first dose; and, at the end of the fifth hour, there was a further depression of two degrees. The medicine being now reduced to four grains, a rise of over five degrees occurred, the bad symptoms also returning; thereupon, the dose was doubled, with the effect that, at the end of four hours, the temperature had fallen from 105.4° to 101.2°. The four-grain doses being now again resumed, the temperature ran up to 102.2° and 103°, which, however, the larger dose reduced to 100°. Two hundred and twenty doses were given in a week, without the exhibition of toxic symptoms, with the exception of slight pricking about the nose and forehead after the first dose.

Dr. Gottlieb Meckel has published (*Deutsches Archiv. für Klinische Medicin*) some observations on kairin, and comes to the following conclusions, which, however, we may not all be able to adopt until further researches have been made known, viz:

(*a*) Kairin is a very powerful, if not the most powerful, antipyretic. (*b*) It reduces the febrile temperature, the reduction depending, however, less on the size of the dose than on the constitution of the patient, and the cause of the febrile symptoms. (*c*) The reduction of the temperature takes place without collapse or any other disagreeable after-effects, and the doses are well borne by the patient. (*d*) The first large dose ought to be followed by several smaller, with close observation of the temperature. (*e*) Kairin will be of greatest benefit in diseases of continued fever, in which the heart and lungs are not affected.

In the *British Medical Journal*, of December 8, 1883, there is published, by Dr. Ashby, of Manchester, an interesting note on a case of enteric fever in a child aged 10 years, in which two-grain doses always reduced the temperature two degrees at least. The drug appears to have been given only every four hours.

In the number of the *Liverpool Medico-Chirurgical Journal* for January, 1884, in "Notes on some Important Therapeutic Agents," Dr. Carter gives a short and interesting sketch of his experience of kairin, and refers to a case of acute rheumatism with hyperpyrexia, in which the drug was administered with apparently very satisfactory results. These last two are the only observations by English physicians that I have been able to find.* During the last few months there have been, from time to time, editorial articles in the English journals on kairin, but these were in reference to German investigations.

Jaborandi.

Dr. CHARLES WESLEY ROOK publishes the following in the *St. Louis Med. and Surg. Jour.*, April, 1884 :

Standing forth, in the attempt to give some of my practical experience with that comparatively recent, but yet wonderful medicinal agent, jaborandi, it is not only with a feeling of hesitancy, on account of the meagreness of the experience, but also with an acute sense of my inability to do the subject justice. Although many present have, doubtless, a more intimate acquaintance with our subject than the writer, in order to bring it more vividly before our minds, permit me to briefly recall some of the more important points connected with its origin, its medicinal virtues, and its physiological action. We find this medicinal agent is obtained from the leaves of a shrub, the botanical name of which is pilocarpus pennatifolius, and that it is indigenous to the province of Brazil, South America. The best and most reliable preparations of jaborandi are the extractum pilocarpi fluidum, and pilocarpinæ hydrochloras.

The virtues of jaborandi are due, chiefly, to two alkaloids, namely, pilocarpine and jaborine. So far as known, the chemical elements entering into the composition of each of these alkaloids are the same, yet they differ slightly in their physical properties, the salts of pilocarpine being crystallizable, while those of jaborine are amorphous. In their effect upon the animal economy, there exists a still greater difference; in fact, their action is directly antagonistic. By some, jaborine is believed to be chemically identical with atropine ; but whether this be the case or not, their physiological actions are the same. Remembering this marked difference between the physiological actions of pilocarpine and jaborine, we are justified in the attempt to reconcile the conflicting evidence given by various experimenters concerning jaborandi and its preparations, by assuming and believing that the difference was due to the presence or absence, in the particular preparation employed, of an excess of one or the other of these two alkaloids.

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* Since this was written, Dr. Shingleton Smith has published a note on the subject in the *British Medical Journal*, February 16, 1884.

The physiological actions produced by the exhibition of pilocarpine and those usually attending the use of the fluid extract, are, in the order of their manifestation, as follows: In about ten minutes after a full medicinal dose of the fluid extract, sooner if a full dose of pilocarpine be given, the face, ears and neck will become deeply flushed, and the heart's action will be accelerated. Almost simultaneously with the flushing, appear drops of perspiration upon the forehead and surface of the body; the salivary glands are stimulated almost as soon as the skin; and, as a result of the stimulation, pour out an immense amount of saliva; so also are the nasal and bronchial secretions augmented, and at times profuse lachrymation is induced. The mammary secretion is claimed by some to be increased, but by others this action of the agent is denied. Concerning this point we will speak later. Nausea and vomiting may attend its exhibition, especially if given on an empty stomach, or if much of the saliva be swallowed.

Reduction of temperature, especially febrile temperature, occurs so soon as free diaphoresis is induced. The excessive secretion poured out through the skin and salivary glands, contains much of the products of tissue waste usually excreted through the kidneys. Not only is the function of the healthy kidneys suspended during the more active effects of the drug, but if, from disease of their structure, their function has been previously suspended, as a result of which there are dropsical accumulations in various parts of the body, the use of jaborandi will cause their re-absorption and elimination. Although the heart's action is, primarily, accelerated, sooner or later the acceleration is succeeded by a slower and fuller pulse. Of frequent occurrence, both in children and adults, is a feeling of languor and drowsiness, succeeding the more active effects of the drug. This feeling is thought to be due to the changed condition of the blood.

Now, instead of speaking of the therapy of jaborandi, will be given the history of two cases, in the treatment of which the fl. ext. was employed.

Case I.—Being one of puerperal albuminuria, before giving its history, permit me to quote a sentence relative to the use of jaborandi in this affection, found at the top of page 1087, National Dispensatory, edition of 1880: "In regard to the dropsy of pregnancy, and the usually associated puerperal albuminuria and convulsions, the efficacy of the medicine does not yet appear to be determined."

November 1, 1883, at 2 a. m., the writer was summoned to see Mrs. F., a young woman, twenty-six years of age, and of medium build. She lacked but a few days of having completed her second gestation, during the latter part of which she claimed to have suffered from cramping pains in the bowel, from the movements of the child in utero, and from headache, and nausea and vomiting. From the appearance of her face, she seemed well-nourished, though she said she was weak, and had not eaten anything scarcely for several days. Later it was observed that the fullness of the face was in reality due to bloating of the tissues. When called, the chief symptoms of which she complained were a severe headache and cramping pains in the right side of her chest. In addition to some anodyne measures for the relief of her sufferings, a hot foot-bath was directed. As she placed her feet in the bath, I was able to distinguish between the appearance of a normal foot and limb and the plump, well-rounded, in fact, the tensely-swollen members just then possessed by Mrs. F.

Immediately more definite inquiry was made concerning the action of the kidneys, and I learned that for many days only a small quantity of urine was excreted. Later in the morning, a specimen of urine was obtained and examined. With the heat and nitric acid tests, a very heavy coagulum of albumen was produced. A consultation was held, Dr. Wm. A. Byrd being the physician in consultation, at the conclusion of which it was thought best, as the normal period of gestation had so nearly terminated, to bring on labor, thus removing the pressure of the pregnant uterus from off the kidneys, in order that they might resume their function, hoping in this manner to ward off an attack of puerperal convulsions, which, from the symptoms present, seemed imminent.

But this plan of procedure not meeting the approbation of Mrs. F. and her friends, another line of action was adopted. To remove the dropsical accumulations, and thus relieve the kidneys, she was given one drachm of fl. ext. pilocarpi, and a formula ordered, of which one teaspoonful, containing fifteen drops of fl. ext., was to be given hourly, until free diaphoresis was produced. The desired effect followed the first dose, as a result of which the œdema of the feet and limbs disappeared, the cramping pains of her side and the severe headache vanished. In two days the œdema, the vague, irregular pains and headache began to return, when a renewal of the jaborandi produced complete freedom from suffering. Within a few days it was again necessary to repeat the dose, when the usual happy result followed.

On November 8, 1883, Mrs. F. passed a very pleasant day, until late in the evening, when labor came on naturally, and about midnight she gave birth to a full-sized male child, without any symptoms of puerperal convulsions. A few days after her confinement, headache and œdema began to return, but were promptly and effectually arrested by the exhibition of a few doses of fluid extract of jaborandi. During the course of the pilocarpus treatment, frequent examinations of the urine were made, but at no subsequent examination was the quantity of albumen present equal to the amount first found, and finally only a trace could be detected.

Case II.—This is a case in which the galactagogue action of jaborandi was beautifully illustrated; yet this power of increasing the mammary secretion is, by same, denied. One author says that " the mammary glands are the same in structure as the sudoriparous glands, being merely differentiated and specialized for their particular purpose, and that it would be reasonable to expect the secretion of milk would be increased." Another writer says: " Instead of diminishing the secretion of milk, as might reasonably be expected, from its causing such profuse discharges elsewhere, it appears to be a true galactagogue." Upon the night of January 1, 1884, I was summoned to attend Mrs. S., who was in labor. She was twenty-one years of age, and a primipara. The labor was soon brought to a successful termination, chiefly through the efforts of nature, but little aid being required of the attendants. At the time of confinement, her breasts were but moderately distended, and the nipples were flat.

The mother and child progressed nicely, with this exception, that not enough milk to nourish the child was secreted, so that it was necessary to feed the latter artificially, until the evening of January 6, 1884, when, on being called, I found Mrs. S. suffering severely from headache, high fever, the surface of the body being hot and dry, pulse about 130 per minute, and her breasts more tense and painful than they had yet been. Not having with me anything that would give her relief more quickly, or better meet the indications present, than the extractum pilocarpi fluidum, she was given a xij ♏. dose, with directions for its repetition every half hour until free diaphoresis was induced. The desire effect followed the third dose.

Simultaneously with the appearance of the perspiration and the increased flow of saliva, the milk began flowing in a stream from the left breast, and so continued during the active stage of diaphoresis. At the time of prescribing the medicine, its possible galactagogue action was not taken into consideration, and, consequently, no directions were given prohibiting the application of the child to the breast during active diaphoresis. The attendants, not wishing to see the child's living wasted, thinking, doubtless. to practice that time-honored virtue, economy, held the child to the breast until it could absolutely swallow no more, when it gave two sudden convulsive starts. then fell asleep and slept for several hours, at the same time perspiring at a rate, in proportion to body weight, far excelling its mother. Not a single bad effect followed its profuse diaphoresis, but on the contrary, I believe the child was actually benefited, by more completely freeing its system of the products of tissue-waste, which had accumulated during fœtal life and after birth, while the various excretory functions were yet imperfectly performed. Returning to the mother, we find that on the following day the milk flowed from the right breast; on the next day, the milk flowed again from the left breast; the next day from the right. and so on for several days did this alternate discharge of milk occur. until finally the flow became daily from each breast, and has so continued to this present time, giving the woman not a little trouble to prevent the excessive discharge from soiling her clothing.

The Subcutaneous Use of Morphine in Elderly Persons.

The *Boston M. and S. Jour.*, May 1, 1884, says that the fact is generally recognized and taught that the very young and the very old are peculiarly susceptible to the toxic effects of anodynes, especially opium. In the case of children, particularly, we have learned the necessity of reducing materially the dose of opium beyond the proportion to the adult dose which the age of the child would indicate for other drugs. We think, however, that many practitioners do not attach sufficient importance to the necessity for caution in the administration of opium to the aged; and in particular that the hypodermic method, useful as it is under certain circumstances, is capable of greatly increasing the risk of an overdose in such cases. One-eighth of a grain of morphia given under the skin has caused alarming symptons in an elderly subject, and we have seen a similar dose apparently cause death in a hospital patient suffering from pneumonia. Instances have occurred within the knowledge of many where a dose as small as one-sixth of a grain repeated once in the course of an hour has proved fatal to a feeble and aged subject. What enhances this danger is the fact that symptoms indicative of narcosis are often entirely wanting until the repetition of the dose has been made, when they supervene with alarming suddenness. It is just here that the risk of the hypodermic method is seen. If the drug is in the stomach and symptoms of an alarming nature present themselves, there is at least an opportunity to evacuate the residue of the drug before it becomes absorbed. But with the narcotic circulating within the blood-vessels it is beyond our reach. The very elements which have made the hypodermic syringe such a favorite in the hands of the medical profession are those which constitute its chief danger.

True it is that Magendie's solution is convenient to carry about; but so would the morphia granules if we were as accustomed to them. The taste of the latter is no great obstacle to their use; the nausea and other bad after-effects are hardly more frequent after the administration of the drug per os. The desideratum of concealing the dose from the patient is as readily attained by the use of the pill as by that of Magendie's solution. Many physicians, finding difficulty in preserving the solution without some antiferment, are in the habit of dissolving a weighed powder each time; and surely this is no more convenient than to carry and administer a small pill.

The indications which are especially met by the hypodermic method are quickness of action and the retention of the drug against vomiting. When either of these requirements must be met, the subcutaneous injection should be practiced. But for a routine method, and above all in that class of patients who are especially liable to suffer from an overdose of the drug, it seems to us unjustifiable to employ a channel of administration which takes it out of our power to evacuate what may prove an excess of the medicament. Some over-conservative physicians of our acquaintance have gone so far as to throw aside the hypodermic syringe altogether, in view of the risks which they have observed in its use. But while this extreme ground seems to us untenable, and while we recognize the great advantages which in certain special cases may accrue from hypodermic medication, we yet feel impelled to protest against making the subcutaneous tissue a regular channel for the administration of morphia, especially in the debilitated and aged.

Paraldehyde as a Hypnotic.

The *Med. News*, April 26, 1884, says: Since the publication, in 1883, of the papers of Cervello and Morselli, upon the physiological action and therapeutical effects of paraldehyde, from which it appeared that the agent was a valuable hypnotic, producing a calm sleep without bad after-effects, the drug has been tried by Berger, Gugl, Peretti, Langreuter, Albertoni, Quinlan, Dana, J. Brown, Dujardin-Beaumetz, J. C. Wilson, Riggi, and others, with the most promising results.

The latest contribution to the subject is that of Dr. VON NOORDEN, of Giessen, published in the *Centralblatt für klinische Medizin*, No. 12, 1884. Given in doses varying between forty-five and ninety grains, the average being about sixty-eight grains, a refreshing, profound sleep was induced in from fifteen to forty-five minutes, which lasted from five to six hours, and was followed, in exceptional instances only, by nausea and persistent bad taste. It was found to be especially useful in the wakefulness of nervous affections, in pneumonia, emphysema, bronchitis, pulmonary phthisis, spinal and other nervous disorders, myocarditis, valvular insufficiency, icteric pruritus, chronic rheumatism of the joints, and for the relief of neuralgic and rheumatic pains. As contraindications, there were noticed serious disease of the stomach, and phthisis in an advanced stage, with implication of the larynx, in which the cough was increased, and nausea and vomiting were excited, probably as a result of direct irritation of the ulcerated mucous membrane. In only two of the other cases were vomiting and headache produced, inconveniences which, it need scarcely be said, are witnessed after the administration of other narcotics.

Particular care was taken to observe the action of large doses of paraldehyde on the respiration and the circulation. While it exerted no influence whatever on the breathing, it slightly reduced arterial tension and the frequency of the pulse; but these effects disappeared in a few hours. These observations are confirmatory of those of Peretti, and they are of great value in indicating that the remedy may be administered with safety in cases of weak heart and other cardiac affections in which chloral hydrate is contraindicated. It should be remarked, however, that in a recent discussion at the Société de Biologie, published in *Le Progrés Médical*, March 22, 1884, Hénocque and Quinquaud declared that the drug slowed the respiratory movements, without acting on the heart, and Bochefontaine, on the other hand, observed that it diminished the rapidity of the pulse.

From the observations of Von Noorden, and of those who preceded him, it is evident that we possess in paraldehyde a hypnotic which is superior to, and more generally applicable than, chloral; since it can be administered for long periods in cases in which the latter drug would prove dangerous. A larger dose is, however, required to produce sleep than of chloral; and as it is rapidly tolerated, the dose has to be progressively increased. From the standpoint of expense, this is a serious objection, particularly in hospital practice, as we are informed that paraldehyde costs about seventy-five cents an ounce in this country, as against fifteen cents for chloral. This objection will be removed when there is sufficient demand for the agent.

Digitalis as an Anaphrodisiac.

The *Therapuetic Gazette*, May, 1884, says it is maintained by some that procreative power, as well as the sexual appetite, diminishes inversely to the development of intellectuality. The seat of the former being in the posterior lobes of the brain, the diversion of energy to the cerebrum, or organ of intellectual function, is at the expense of desire and ability in the direction of the perpetuation of the species. The frequency of sterility and small families, and the inferiority of the progeny of men who have been noted in history for their intellectual achievements, are referred to in support of their position. The facts that the native American element is growing less with each succeeding generation and that the increase in the population of this country is due to immigration and the immediate offspring of immigrants, is said to be largely attributable to the superior intellectuality of the native element. Doubtless this element is more intellectual than the foreign element which seeks our shores, and possibly this fact has something to do with the infecund martial unions; but we should hesitate to believe that this intellectuality is the prime factor in the causation of small families, unless, indeed, the inventive genius of the American female, as shown in her efforts to prevent the legitimate fruit of the marital relations, be regarded as a result of superior intelligence.

But to follow the above subject where it would naturally lead us, would be to depart from the limits to which the *Gazette*, as a therapeutic journal, is restricted. We may be permitted to remark, however, that the demand for aphrodisiac remedies is large, and probably on the increase in this country; and there are few branches of unprincipled quackery more profitable than that in which increased virility of the male sexual apparatus is promised. The cause of this apparent increasing prevalence of sexual debility we shall not seek. In a recent work on the subject, Dr. **Joseph W. Howe** holds prolonged continence to be a cause of degeneration of the procreative powers. While we would fain believe, for the sake of the virtue of our people, that it is largely operative in the debility in this direction, in these latter days, we are constrained to be very skeptical on this point.

While, however, atony of the sexual apparatus is the affection of these organs for which medical advice is most frequently sought, the physician is also occasionally consulted for relief from erotic impulses. In the case of young men virtuously disposed, the activity of their sexual functions and the intensity of desire is frequently a source of mortification; and not infrequently the considerate husband consults his physician for aid in subduing the imperious passion within limits commensurate with the ability of an invalid or less rugged wife. The drugs at his command are comparatively few; and when the bromides have failed to effect the desired end, other medicines are prescribed with comparatively little confidence. In view of these facts, the statement by Dr. **N. L. Folsom**, in the *Medical World*, that he has found digitalis to be effectual in allaying the sexual impulse, will prove of interest. Administered in doses of ten drops of the tincture, three times a day, he claims it will allay excitability of the organs. In some cases it may be necessary to increase the dose to a teaspoonful.

American Musk.

In the *Canadian Pharmaceutical Jour.*, April, 1884, **Prof. R. S. Cristiani**, of Philadelphia, says:

There has been a good deal of literature on this subject for two or three years past, much of which has been written by myself, and which has, I believe, attracted some notice both here and in Europe; for to obtain a good substitute for the very costly Tonquin Musk has long been an object of great importance in all business countries, and the principal object of my writings has been to place the article in commerce, that all who desire it may know where to procure it.

The style "American Musk" is a title I have given it, as the animal from which it is obtained is indigenous to this country. This is the well known rodent, the musk-rat (Fiber Zibetica) which frequents the streams and marshes of nearly all the States and Canada, having habits similar to the beaver. The musky secretion is found in two small sacs situated below the anus and near the genital organs, and usually adheres to the skin when removed, and is collected in a very indifferent way, if not thrown away as worthless, by those who handle the pelts, as it is desirable they should be as free as possible from the odor.

This animal, when plentiful, is trapped for its skin—the fur being quite fine and soft—and shipped in large quantities to Europe, where they have great skill in dressing and dyeing furs, and it is made to imitate more expensive goods, such as seal, otter, etc. The winter and spring are the seasons that this trapping mostly occurs, and the spring is the only season when a supply of the musk-pods can be obtained.

I have mentioned that there has not been any systematic attempt made to collect and prepare this valuable substance, except by myself, and with my many duties I have not been able to give it the attention it certainly deserves; yet I have had much correspondence on the subject here and from Europe, and especially from London, where there has arisen some demand for the article, owing principally to my efforts; but my time to devote to the subject has been limited, and many opportunities to forward the subject unavoidably neglected. One reason why this valuable article is neglected, is the great ignorance of the persons who collect it, as they fail to take off the sacs carefully, and often leave a quantity of membrane and fat adhering to them, and they have no knowledge of a proper mode of preparation to prevent decay and the attack of insects, etc., so that the article would keep and be fit for sale at all seasons, for when the weather moderates they often find it unfit for use and worthless. Preservation is all-important, if this musk is to be an article of commerce, and I think it soon will be, but it can scarcely be expected that such will be the case if it can only be procured two or three months in the year.

Let it not be suspposed that I claim for the American musk all the properties of the true musk—far from it, for that valuable drug stands at the head of all analogous substances, having qualities that are not found in any other known substance. But as a substitute in many manufactures, such as toilet soaps, and some secondary articles of perfume—and perhaps some flavors—I know of no article that is as good a one; and in soaps particularly it is invaluable, I having furnished it to some of our large manufacturers for some seasons.

The object of my present article is to call more attention to the collection of the musk-rat pod, in the States and Canada, as the season will soon open for the trappers, and the pelts will arrive at the usual centres in the late winter or early spring, and that those who deal in and handle them may see a source of profit in saving the odorous sacs; and perhaps, if I can spare the time, I will give the matter more attention than I have heretofore done, and should those who are interested in the article want further facts, they can correspond with me.

Physiological Action of Condurango.

The *Lancet*, May 3, 1884, says: In a memoir contained in the last part of Foster's *Journal of Physiology*, Dr. LAUDER BRUNTON gives the results of his experiments to determine the physiological action of condurango. This bark is employed in the domestic medicine of the tribes occupying the northern half of South America, as a remedy against cancerous and syphilitic diseases. The condurango liane (or creeper) bark from Ecuador is yielded by a plant named the Gonolobus cundurango, and belongs to the natural order of the Asclepiadaceæ, an order of acrid and stimulating plants, which, although some, like the cow-tree of Ceylon (Gymnema lactiferum), yield a milky and wholesome juice, yet as a rule are suspicious; many, like the Tylophora and Secamone, having emetic roots, whilst others, like the Asclepias decumbens, are diaphoretic and sudorific, causing abundant perspiration, without any increase of general temperature. The condurango is a climbing plant, with a stem of the thickness of from one to three inches, and large cordate leaves. The bark is in thin, curled pieces, about three inches in length, and of greyish color. Under the microscope the tissue presents small cells containing starch, and glands filled with calcium oxalate, traversed by lacteals with cloudy brown contents. Although Gonolobus macrophyllus is reputed to have furnished the North American Indians with a juice to poison their arrows, condurango does not seem to have any very active properties; for Dr. Brunton found that watery extract of condurango has no action on frogs, even when injected into the dorsal lymph-sac in doses of five grains. On rabbits it has no poisonous action when injected into the peritoneal cavity. When a solution containing fine particles in suspension is injected into the jugular vein, the animal dies with symptoms of opisthotonos. When the coarser particles are removed this does not occur, although the breathing is quickened. Dr. Brunton thinks it is not improbable that the quickening of the breathing is due to the lodgments of fine particles in the pulmonary capillaries, and that the opisthotonos he noticed in one experiment, and which has been supposed by Gianuzzi and Bufalnis to be due to the direct action of condurango on the nerve centres, was really due to asphyxia caused by pulmonary embolism. Unlike quinine, condurango has very little effect on reflex action. Condurango, when injected into the peritoneum, even in large doses, has no action on the blood-pressure. Finally, it does not exert any definite action on the arterioles, nor does it paralyze the peripheral terminations of the vagus.

Pilocarpine in Hiccough.

Dr. W. C. Pipino thus writes in the *St. Louis Courier of Medicine* for April, 1884:

In the January number of the *Journal of Am. Med. Association* appears an article taken from the *Allgemeine Wiener Medizin. Zeitung*, by Dr. Ruhdorfer, on the use of pilocarpine in severe hiccough. The writer says that after trying all the remedies usually given in such cases, as quinine, belladonna, castoreum. valerian, aromatics, mustard poultices over stomach, dry cupping down the spine, chloroform, ether, emetics, purgatives, etc., he obtained no relief for his patient, a young lady, who dragged through a miserable existence for three months. Remembering a case in the *Revue Medico-Chirurgicale*, he injected a solution of pilocarpine hypodermically, when the hiccough was cured as if by magic, and never returned. I see reference is made to the same case in the *Weekly Medical Review*, February 2, 1884.

I had a case on hand at the time of an old Israelite gentleman, seventy-three years of age, who, on the night of February 1st, received a severe fall in the dark from the platform in front of one of our hotels, sustaining a severe injury of his right side. February 6th, he was taken with hiccough, which manifested itself whenever he attempted to eat or drink anything; the mere thought of taking water would cause the hiccoughs to come on and last a considerable time. The age of the patient and his weakened condition necessitated prompt measures. I had failed to relieve him with all the remedies I used, viz: belladonna, morphia, musk, chloroform, etc., when I happened to read the above article. I immediately prepared a solution of pilocarpine muriate, and injected hypodermically three centigrammes. In five minutes after giving the injection profuse perspiration and salivation took place; the perspiration was so profuse as to saturate his clothing. He hiccoughed twice afterwards on attempting to drink water to allay his thirst, caused by the excessive transpiration. Since then he has not had a return of the trouble, much to my own as well as the patient's relief. He is now able to take his nourishment without trouble, consequently is gaining in strength. While my case did not respond as readily as Dr. Ruhdorfer's, I am satisfied with the results.

The Bichloride of Mercury in Fetid Bronchitis.

The *Med. Record*, May 31, 1884, says: The universally acknowledged power of corrosive sublimate to arrest decomposition and destroy bacterial life, would naturally suggest its use in purulent inflammations of mucous membranes so situated as to permit of the local application of the drug. According to Keyes, as we noticed in a recent issue, it is unsuited to the treatment of gonorrhœa, owing to its irritant effects upon the urethra, even when applied in very mild solution; but this is no argument against its utility in inflammations of other less sensitive mucous membranes. Korànyi (*Il Movimento*, March 14, 1884,) reported a case of pleurisy and mitral regurgitation, complicated with fetid bronchitis, in which inhalations of the bichloride were used with marked effect. The patient had previously used inhalations of phenic acid and turpentine continuously for four weeks, with negative results. He was then instructed to inhale about half an ounce morning and evening of a solution of corrosive sublimate, 1 part to 10,000: At the end of six days he was apyretic, coughed but little, and the expectoration became much less offensive. A few more inhalations sufficed to render the bronchial secretion mucous in character, and inodorous. It seems not unreasonable to ascribe the amelioration of the symptoms to the remedy employed, and if further trials of the drug in similar cases are equally successful, we shall have gained a valuable point in the treatment of this troublesome affection.

IV. GENERAL MEDICINE.

Dr. Koch's Sixth Cholera Report.

The *Brit. Med. Jour.*, March 22, 1884. says: Dr. Koch mentions that, in their last report, the Commission were unable to state definitely that the bacilli which had formed the subject of observation were strictly limited to cholera, and reasons are assigned for the difficulty which they had experienced in doing so. They now, however, consider the matter to be definitely solved in the affirmative, and state that the organisms manifest the following distinguishing characters. "They are not quite straight, as other bacilli are, but slightly curved, comma-like. The curvature may be even so marked that the stave may almost present a semicircular form. From these curved staves, S-shaped figures, and more or less elongated, slightly undulating, linear forms may be developed in 'pure cultivations,' of which the first two segments and the last correspond to the form of the bacilli as found in cholera, and which, continuously increasing in number, remain attached to one another." Furthermore, they manifest very lively voluntary movements, which are best seen when examined in a drop of nutritive fluid suspended from the under surface of a cover-glass. In such a preparation, the bacilli may be seen to swim with the greatest celerity across the field. Their behavior in nutrient gelatine is particularly characteristic; they form colorless colonies in it, which are closed at first, and look like strongly refringent accumulations of glass-fragments. These colonies gradually liquefy the gelatine, and extend themselves over a limited area. Further, they may be distinguished with tolerable certainty when cultivated in hollowed slides, as they are always found at the margin of the drop of nutritive fluid, and their peculiar movements may be observed, as well as their comma-shaped forms, after the application of solutions of anilin-dyes.

These bacilli were found in all the intestinal discharges of cholera-cases, and in the contents of the intestinal canal at *post mortem* examinations, but not in any other disease, nor were they to be found in specimens of dirty water from various sources. As it is known that cholera-like symptoms are induced by arsenic, an animal was poisoned with this substance, but cholera-bacilli could not be detected.

Dr. Koch, in discussing the connection of these bacteria with cholera, observes that "the relationship must either be that the growth of the specific bacterium can only be favored by the cholera-process, or that the bacterium is the cause of the disease, and that the disease is only induced when it has found its way into the intestine of man." The first supposition is believed to be negatived by the circumstance that, in order to account for the presence of the bacilli, it must be assumed that they are always present in the intestine, which, it is stated, is not the case. "Seeing, therefore," he writes, "that the growth of the bacterium cannot be due to the cholera-process, there is nothing left but the inference that it is itself the cause of the disease. Many other circumstances point in an unmistakable manner to the same conclusion, and notably the behavior of the bacilli during the disease-process. Their presence is limited to the organ which is the seat of the disease—the intestine." They have only been twice observed in the vomit, and on both occasions the appearance and the alkaline reaction showed that the fluid had come from the intestine. In the earlier dejections of a cholera-patient, so long as they are still feculent, there are but few bacilli, whereas the subsequent watery odorless dejections contain the bacilli in great numbers, and, coincidently, all other bacteria disappear almost completely, so that in this stage of the disease an almost "pure cultivation" of cholera-bacilli is obtained. As soon as the disease subsides and the dejections become feculent, the comma-like bacteria gradually disappear, and are not to be seen after recovery. A like description holds good for the conditions observed at necropsies. When death occurs at the height of the disease, the cholera-bacilli are present in enormous numbers and almost pure; whereas when death occurs later on, masses of putrefactive bacteria are also found.

The foregoing summary will suffice to indicate the character of the observations, and the deductions which the Commission have recorded; and it will be noted that Dr. Koch and his colleagues have come to the conclusion, not only that the organisms in question are strictly limited to the cholera-process, but that they are the veritable cause of the disease. It would be superfluous to say that the statements of such a Commission as this are entitled to the greatest respect; at the same time, it is incumbent on the profession to study the evidence most carefully; indeed, the highest compliment which can be paid to any Commission of this character is to submit the evidence which it has adduced to early and searching inquiry. The time, however, has not come for this as yet in the present instance, seeing that the reports hitherto issued are only summaries of the results. At the same time, it is to be presumed that the most striking of the results have been announced; at all events, the most striking of those which appear to the observers to give support to the view with which they started on their labors, viz., that the disease is due to a micro-organism. It will be remembered that the French Commissioners started with a like idea, and believed that they had found what they were in search of in the blood, whereas the German Commission found it in the intestine. Considering the very rapid advances which have been made within the last three or four years in the study and detection of bacterial organisms, it is to be expected that, from time to time, new kinds will be found in the human body as elsewhere; and the wonder is that the forms of such organisms which are so abundantly found in the mouth and alimentary canal during health, for example, are so constant, seeing that innumerable varieties must pass the lips at every meal. This, to our mind, shows that, under normal conditions, the secretions of the mucous surface are peculiarly adapted for the growth of certain forms of organisms, but that here, as elsewhere, if the character of the nutrient fluid be altered, the forms which previously prevailed will, to a greater or less extent, become replaced by others. The reason for this, as we have on a previous occasion remarked, is variously interpreted by mycologists of the first rank—one class maintaining that the altered medium has caused the micro-organisms to assume a different character; whereas others are equally firmly of the opinion that it is not the form of the organism which is modified, but that the change which has occurred in the nutritive fluid has proved to be peculiarly suitable to some one or other of the many kinds of micro-organisms ever present in the alimentary canal, and that these have consequently outgrown all others.

It will be recollected that the French Commission suggested an explanation of the latter character with regard to the presence of certain bacteroid forms in cholera; and doubtless the German Commission will have to meet further criticism of this kind, seeing that the only evidence adduced by Dr. Koch in support of the unqualified statement that the bacillus which he describes as present in cholera is the veritable cause of the disease, is the circumstance that the micro-organism has not been detected elsewhere. That this particular form of bacterium may be new, in so far as it has not been specially singled out and named, is, we take it, by no means improbable; but it is quite possible that the evidence which Dr. Koch adduces in support of its being the *cause* of cholera may receive a wholly different interpretation at the hands of other observers.

These bacilli are said to show themselves abundantly only after the dejections have ceased to present feculent characters—ordinary putrefactive bacilli being present until this stage. During the height of the disease, cholera bacilli predominate very greatly, and, when the dejections begin to assume their ordinary character, the cholera bacilli disappear, and the ordinary forms return. It might, perhaps, be urged by opponents that it is as plausible to assume that the cholera form of bacillus was developed because the fluid contents of the intestinal canal underwent a very great change on the advent of the disease, as that the organisms themselves were capable of inducing such changes in the system as would produce fluid material conducive to their growth.

Further, it might be asked whether it would not be as logical to assume that, in their turn, the putrefactive bacteria had resumed their predominance because they had succeeded in counteracting the action of the cholera bacillus—had, for instance, induced the liver to secrete bile, and the secretions of the alimentary canal to resume their normal character. It must also be remembered, that it is by no means unusual for cholera to run a remarkably rapid course; and that, even in severe cases, complete recovery, as well as death, may take place within comparatively a few hours. The choleraic flux may have been equally severe in both cases (though the severity of this symptom is by no means an infallible index of the severity of the disease), and yet, notwithstanding the assumed destruction of the intestinal mucous membrane by the bacilli, the alvine discharges have been known to assume a normal appearance in a remarkably short time. Questions of this character arise whilst studying the document, and others of a like kind will doubtless occur to such of our readers as are accustomed to sift evidence of this description.

In passing, we may also remark that less prominence appears to be given to the presence of micro-organisms in the intestinal *tissues* than was the case in the report submitted from Alexandria; and, with regard to the precise appearance of the organisms themselves, the description now furnished tends to convey the impression that they manifest more of the characters of the organisms which it was formerly the custom to speak of as "very minute vibriones," than the description given heretofore.

The latter part of the report is of a polemical character—arguments being adduced to show that, although all the attempts at inoculation of animals had proved fruitless (no symptoms even simulating those of cholera having been induced), the force of the evidence that the disease was due to the organism was by no means weakened. It had been found that such diseases as typhoid fever and leprosy could not be communicated to animals, notwithstanding that in each of the diseases, likewise, the existence of "a specific bacterium had been demonstrated." As regards cholera, it is added that is not likely that the disease will ever be communicated to animals, seeing that "cholera-infection material is scattered throughout the length and breadth of Bengal, during all seasons of the year," without a single authenticated case of the disease in them having ever been recorded. To cite typhoid fever and leprosy, however, in this connection, cannot very materially add to the force of the argument that the cholera-bacillus is the cause of the disease, seeing that as regards neither of them has it been unequivocally demonstrated that they are communicable even from person to person; and, with reference to their so-called specific organisms, the profession is by no means unanimous in the opinion that these are the causes of either typhoid fever or leprosy. Typhoid fever, indeed, is somewhat confidently ascribed to more than one micro-organism. It has long been ruled that the question of the causation of cholera cannot be decided by arguments and comparisons, however ingeniously devised; and future observers would do well to bear in mind the remarks made by the *Standard*, in its recent article on Ruskin's "Storm Clouds:" "There are not a few researches which might have better stood the test of time had the researchers been less gifted with poetic insight, which gives so large a return of conjecture for so small an investment of fact."

The So-called Bismuth Breath.

WILLIAM REISERT, Ph. G., thus writes in the *American Journal of Pharmacy*, April, 1884 :

Bismuth oxynitrate, when taken into the human system, often imparts to the breath a very perceptible and disagreeable garlic-like odor, which is very annoying, not only to the person who has taken the salt, but particularly disagreeable to the persons with whom they may come in contact. This odor has been attributed by writers to be caused by impurities in the bismuth salt, such as arsenic and tellurium, and some have asserted that the chemically pure bismuth salt itself produces the odor. The subjoined experiments will add to the already known facts concerning the cause of the production of this odor, namely, the ingestion of tellurium, which element occurs as an impurity in many samples of bismuth oxynitrate.

Chemically pure sesquioxide of bismuth was prepared by dissolving the commercial oxynitrate in chemically pure nitric acid, and precipitating with an excess of water. This operation of re-dissolving and re-precipitating was repeated twice, and the precipitate was then strongly heated in a porcelain crucible to convert it into bismuth sesquioxide, and at the same time to volatilize any arsenic which might have been contained in the substance. Tests for arsenic and tellurium in the resulting sesquioxide failed to denote their presence.

The bismuth sesquioxide thus purified was administered to five persons, under the same, and under different conditions as to dose and time. From 0.5 to 1.0 gram was given three times daily for six days. No garlic-like odor could be recognized in the breath.

To investigate the action of arsenic in the production of this odor in the breath, arsenious oxide was taken by myself, in doses of 0.003 gm. after each of the three daily meals for three days. On the fourth day, on account of the griping pain produced in the abdomen, and a violent diarrhœa, only two doses were taken. There was not the slightest garlic-like odor perceptible in the breath.

Tellurium is comparatively rare, and is contained in many of the ores of bismuth. The mineral tetradymite contains as much as 49.79 per cent., Wehrlite, 29.74 per cent., and Joseite, 15.93 per cent. of the element. In a sample of metallic bismuth from Bolivia, Schneider* found 0.14 per cent of tellurium. Brownen† found tellurium in the commercial bismuth oxynitrate, but it was not present in large quantity. On account of difficulties in its separation from bismuth, it often occurs as an impurity in the commercial bismuth oxynitrate, yet in most cases the quantity present is very minute. If more care were used in the preparation of the commercial oxynitrate, less would be heard of the so-called bismuth breath. Repeated precipitation and washing will entirely remove the obnoxious element.

As early as 1824, the odor produced by the ingestion of tellurium compounds was noticed by Gmelin.

In 1853, Hansen‡ investigated the cause of the production of the odor. This investigator experimented upon himself and a friend, and upon dogs, with potassium tellurite. This salt, in doses of 0.030 to 0.080 gm., taken by himself an hour before each meal, gave the garlic-like breath within a few minutes after the first dose, and this odor soon became so strong that he had to seclude himself from society. He continued the doses during seven days, his friend continued the doses for two days with similar effect, and noticed the odor in his breath for eight days afterward.

It is also stated that Wöhler, when investigating the volatile telluride of ethyl, noticed this same odor in his breath, and one night, when perspiring freely, the odor of the perspiration was almost unbearable. In the experiments on dogs, the garlic-like breath was perceptible after one minute. Hansen quotes Gmelin as having, in 1824, given tellurous acid to a dog and rabbit. The rabbit only was killed, and, on dissection, gave off a garlic-like odor.

Sir J. SIMPSON§ records a case in which a divinity student inadvertently swallowed a dose of tellurium, which was followed by the evolution of such persistent odor that for the remainder of the session the patient had to sit apart from his fellow-students.

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* Jour. f. Prakt. Chem.

† Phar. Jour. Trans., October 16, 1875; Amer. Jour. Phar., 1876, p. 133.

‡ Liebig's Annalen, lxxxvi, p. 208.

§ Blyth Manual of Chemistry, Lon., 1879.

The experiments in this direction made upon several friends, and also upon myself, are as follows :

Tellurous oxide (TeO_2) was prepared by treating metallic tellurium with nitric acid, evaporating to dryness, and igniting the product. Some of the resulting tellurous oxide was taken by myself in doses of 0.005 gm. each. Three doses were taken on May 8, 1883, at 1, 4, and 7 o'clock p. m. In 15 minutes after the first dose the breath had a strong, garlic-like odor, and in an hour a metallic taste was observed. An hour after the second dose the urine and sweat had the garlic-like odor, which was also observed in the fæces on May 12. The metallic taste was observed for 72 hours, and the garlic-like odor in the urine for 382 hours, in the sweat for 452 hours, in the fæces for 79 days, and in the breath it was still present, though very faintly, after 237 days.

In order to determine the smallest quantity of tellurous oxide which would be required to produce the garlic-like odor, the following solutions were made:

I. 0.001 gm. of tellurous oxide was dissolved in potassium hydrate and sufficient distilled water to obtain 100 cubic centimeters. 5 cc. contain 0.00005 gm. tellurous oxide.

II. 0.00025 gm. of tellurous oxide was dissolved with the aid of a little hydrochloric acid in sufficient distilled water to make 100 cc. 5 cc. are equal to 0.0000125 gm. of tellurous oxide.

III. Made like the preceding, but diluted to 200 cc. 5 cc. are equal to 0.00000625 gm. tellurous oxide.

IV. 0.0001 gm. tellurous oxide, sufficient hydrochloric acid and water to measure 100 cc. 5 cc. are equal to 0.000005 gm. tellurous oxide.

V. Like the preceding, but diluted to 500 cc. 5 cc. are equal to 0.000001 gm. tellurous oxide.

VI. 100 cc. of solution V. was diluted with 100 cc. of distilled water; each cc. represents 0.0000001 gm. tellurous oxide.

These solutions were given to a number of young men; but no one was experimented upon a second time.

I. After one dose of 5 cc. of this solution, the garlic odor became perceptible in the breath in 35 minutes, and lasted about 75 hours.

II. Three doses of 5 cc. each were taken after three succeeding meals. The odor was noticed in the breath 30 minutes after taking the third dose, and continued about 66 hours.

III. Five doses of this solution of 5 cc. each were taken after five succeeding meals, when the odor was soon noticed, and lasted about 90 hours.

IV. After six doses of 5 cc. each, the odor was quite distinct; three additional doses were taken, and the odor lasted 96 hours.

V. Five doses of 5 cc. each were taken after five consecutive meals; the odor was noticeable in 45 minutes, and lasted 73 hours.

VI. After one dose of 5 cc. the garlic odor was perceptible in 75 minutes, and lasted about 30 hours.

Smaller quantities of this solution were then given, namely, 1 cc. to each of two young men, 2 cc. to two persons, and 3 cc. each to three persons; but no garlic-like odor could be detected.

The nature of the compound which possesses this garlic-like odor is, as yet, not understood, although Hansen attributes the odor to be caused by a volatile organic compound of tellurium like the telluride of ethyl, which is given off by the lungs and skin. Both methyl and ethyl telluride have a garlic-like odor.

In this investigation the breath of myself, which was exceedingly strongly impregnated with the garlic-like odor, was for several hours passed through a tall column of distilled water contained in a wash-bottle, and the water afterward tested for compounds of tellurium, but not even a trace of this element could be found. However, from the minute quantity of the element which is required to produce this odor, one would hardly expect to find by qualitative testing even the merest trace of the element in the breath. Necessarily, the presence of tellurium in such a minute quantity in the great majority of samples of the bismuth oxynitrate would prevent its detection by any of our chemical tests. From this failure to detect tellurium most likely have arisen the many statements* of its non-presence in the commercial bismuth oxynitrate. The physiological test seems to be the most delicate, as it has been shown, that in this way as little as 0.0000005 gm. or $\frac{1}{125000}$ of a grain of tellurous oxide, equal to 0.0000004 gm. or $\frac{1}{160000}$ of a grain of the metal, may be detected.

In these experiments, idiosyncrasy seems not to have had any influence at all. Every one to whom the tellurium compound was administered in sufficient quantity was affected with the garlic-like odor.

Hæmophilia.

It may be well to refresh our memories about this disease, which was the affliction from which the late Prince Leopold so long suffered. Hence we reproduce the following from the *Lancet*, April 5, 1884:

The disease named hæmophilia is characterized by the occurrence of hæmorrhages that may either be spontaneous, or consequent upon very slight injuries. In either case they are of the most serious nature, sometimes proving quite uncontrollable, or ceasing only on the near approach of death, and not before the patient has lost almost every drop of blood in his body. The affection has long been known to physicians, having been described by the Arabian physician Albucasis in the eleventh century. In England and in Germany those who are subject to it are commonly known as "bleeders," large quantities of blood escaping as a result of such trifling injuries as a cut of the finger, a leech-bite, or the extraction of a tooth. It is well known to be hereditary, and many cases have been reported in which one or more members of successive generations have inherited the remarkable tendency to bleed, which, as a rule, appears to prove fatal before the natural term of life is attained. It is much more common amongst men than in women, the proportion given by Gintrac being 7 to 1, by Wickham Legg 11 to 1, and by Eichhorst 12.7 to 1; and it is curious that whilst women thus escape themselves, they transmit it to their offspring much more frequently than men. It is far more common in the inhabitants of northern than in those of southern countries. Thus in 194 cases, 93 occurred in Germany, 46 in England, 20 in France, 15 in North America, 7 in Russia, and the remainder in scattered cases in Switzerland, Scandinavia, Holland, Belgium, Denmark, and the

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* Dr. Squibb, Ephemeris, Sept., 1882.

East Indies. The most frequent seat of the hæmorrhage is the nose, then the intestines, and next the pulmonary tract, whilst in particular cases almost every region and orifice of the body has been affected. In these subjects a blow that would by others pass wholly unnoticed leads to the formation of extensive ecchymoses, or to the appearance of large fluctuating tumors, to painful effusions into the joints, or to intra-cranial effusion of blood and a fatal issue.

The cause of the disease is not certainly known, but it does not appear to be primarily due to any change in the blood. Careful examination in the intervals of hæmorrhage, and when the patient has been in ordinary health, has failed to reveal any defect in its coagulability, or other alteration in its physical, chemical, or microscopical characters, though doubtless, when the hæmorrhage has been in progress for some time, it would present the usual characters of the blood in anæmia—that is to say, its color becomes altered, it contains fewer corpuscles and less proteids, whilst on coagulation it yields more serum, and a smaller clot, than healthy blood. But other reasons for the tendency to profuse hæmorrhage have been suggested. It has been attributed, for example, to an excessive contraction in the small veins, constituting an impediment to the passage of blood through the capillaries, and hence leading to congestion. A far more probable theory, however, is that in the subjects of hæmophilia a defect in the structure of the smaller arteries exists, consisting in the absence or degeneration of the muscular coat. This view is supported by the important observation made five years ago by Dr. Percy Kidd, and reported by him to the Royal Medico-Chirurgical Society. In this case careful microscopical examination of the vessels of a child who died from bleeding, and who presented during his life the usual symptoms of hæmophilia, showed that a change had occurred in the delicate flat plates, or endothelial cells, which form the natural lining of the vessels, and by the uniform smooth surface they present greatly facilitate the onward movement of the blood, whilst they offer in healthy subjects, and under ordinary conditions, an insurmountable obstacle to the escape of blood from the interior of the vessels. These cells were softened, changed in form, and had undergone multiplication so that they no longer formed an even layer. A still more important change, however, was observed in the muscular coat, which had become thickened, and so altered that although the specimens were perfectly fresh, the muscular fibres could no longer be distinguished, and the whole appeared to be softened and degenerated. But it is this coat which by contracting prevents the escape of more than a very small quantity of blood, even in extensive cuts and bruises of the skin, and it is not surprising that being absent, or failing in the discharge of its function, bleeding, even from a small cut, should assume a serious character, and that once started it should defy the best directed efforts of the surgeon.

The Therapeutics of Early Rising.

The *Boston M. and S. Jour.*, May 15, 1884, says: The subject of early rising has a physiological and a therapeutical aspect.

It may be laid down as a general proposition, applicable to the great majority of men, women, and children in health, that the proverb "early to bed, early to rise," etc., embodies sound common sense, and is safe to follow, enabling those who conform to it to perform the greatest amount of work of which they are capable with economy of time, of eyesight, of nervous energy, and of the general health.

The tendency of modern civilization has been to lead people greatly to disregard nature's law (to which the inferior animals generally conform), whereby night is the time for rest, and day is the time for toil. This law is a result of natural selection, as pointed out by one of its great apostles. "An animal so constituted that waste and repair were balanced from moment to moment throughout the twenty-four hours would, other things equal, be overcome by an enemy or competitor that could evolve greater energy during the hours when light facilitates action, at the expense of being less energetic during the hours of darkness and concealment."

Early rising is the proper sequel of early retiring, and when recommended as a hygienic rule it is with the presupposition that ample time—which with every individual is a fixed quantity—shall have been devoted to sleep.

The majority of laboring people, in accordance with the necessity in most adults for about eight hours' sleep a day, have wisely chosen the period between nine o'clock in the evening and early morning; and farmers who, retiring in the summer at dark, arise at daybreak, testify to the extraordinary salubrity of the morning air. The atmosphere then is cooler and more invigorating, more heavily charged with oxygen, than later in the day, when rarefied by the heat of the sun. There is no time so favorable for exercise, as students well know who are in the habit of taking long walks or practicing gymnastics in the morning before breakfast. An hour spent in exercise at this time of day will fortify a student more than two hours of bodily training at mid-day, and this season should be chosen for physical rather than for mental exercises.

If sufficiency of sleep be necessary, excess of time spent in repose is enervating and harmful; it promotes languor of the circulation, and thus induces torpor and congestion of the viscera; it interferes with the energetic performance of the respiratory function, on which the due oxygenation of all the tissues depends; muscular tonicity and nerve nutrition are also enfeebled by prolonging the season of sleep.

From what has been above said, it may be inferred that in pathological states characterized by deficient metabolism of nitrogenous waste elements, where, in common parlance, the biliary function is said to be deranged, early rising, with exercise in the open air, will be of powerful therapeutic efficacy. The blood is charged with the products of defective oxidation, the result of over-eating or over-work (or both combined), and all the symptoms of liver indigestion ensue. Here the best hygienic advice is that of old Dr. Abernethy, "An axe, a cord of wood, and five o'clock in the morning!" Under this regimen the "biliousness," with its attendant headaches, malaise, loss of appetite, etc., will often disappear as if by magic. If it is "the early bird" that catches "the worm," it is the early bird that can digest the worm. Dr. Abernethy's advice applies to many cases of simple dyspepsia, which will be more speedily and permanently benefited by early rising than by wine bitters and pepsine; it may also be indicated in gout and diabetes, which are diseases of mal-nutrition.

As for nervous disorders, those characterized by spasm are, as a rule, more amenable to this kind of hygiene than paretic diseases, a recumbent posture increasing spinal reflex activity. Epilepsy and hysteria have both been benefited by the establishment of correct habits of sleep and by early rising; and to a certain class of debilitated young men (with whom every physician has much experience), no counsel is more important than to rise as soon as the first sound sleep is over. As for cases characterized by exhaustion and loss of power) neurasthenia and the paretic diseases of the nervous system), long-continued rest is often the only treatment that does any good. The damaged nervous elements have lost the power of rapid recuperation under sleep, and early rising would, in such patients, be a cruelty if not an impossibility. Reserve force is lacking, and morning weariness is often overpowering. Other persons are neurasthenic from want of a proper hygienic education, and cannot be too much exhorted to curtail the hours devoted to enervating inaction. To such patients the effort, persisted in, of early " springing from the bed of sloth," and engaging in some energetic occupation, is a victory over their infirmity.

In anæmia and chlorosis, a " morning air bath " (as Dr. Franklin styles it) is often more beneficial than a course of iron and arsenic.

The victim of insomnia must sometimes, perforce, lie abed in the morning; hours lost in vain attempts to go to sleep may be partially made up by prolonging the season of rest, and subsomnolent states are, as Dr. Crichton Browne observes, the next best thing to sleep. For a great majority, however, of people who are not bedridden, a matinal walk is better than medicine.

Anæsthesia by the Rectal Method.

The *Med. Record*, April 26, 1884, says: M. DANIEL MOLLIÈRE, in the *Lyon Médical*, has described a very novel method of administering ether, and claims for it advantages which, if sustained by further trials, will in a very literal sense revolutionize the usual procedure.

He writes that while showing a Danish physician, Dr. Axel Yversen, through the wards of the Hôtel-Dieu at Lyons, that gentleman asked how he administered ether, by inhalation or by the rectum? Further conversation elicited the fact that in Dr. Yversen's experience anæsthesia could be advantageously induced by giving the anæsthetic in the reverse of the ordinary way.

Next day Dr. Mollière began to experiment. A young woman, twenty years of age, was to be operated upon for a tumor of the parotid. The ether was injected into the rectum by means of a Richardson's atomizer. Absorption took place very slowly, but at the end of ten minutes the patient became incoherent, and could taste the ether in the mouth. A few drops were then placed near her nose, and upon inhaling them she fell at once into a profound sleep. The operation was then performed without any trouble. The patient had taken some soup just before the operation, and she vomited it upon recovering from the anæsthesia. Apart from this she felt no disturbance.

In a second case the ether was given in a different manner. An india-rubber tube of the size of the finger was introduced into the rectum, and connected with a flask of ether which was itself placed in a jar containing water heated to a temperature of 50° C. The ether entered the tube boiling. In five minutes the patient became incoherent; a few whiffs of ether then produced complete anæsthesia. The operation was for the removal of a tumor from the antrum of Highmore, and was much facilitated by the fact that no ether cone had to be kept over the face. The patient came out from the anæsthesia without any trouble, and suffered no nausea.

In a third case, the administration succeeded equally well, the patient suffering no nausea.

The fourth patient was a robust man who had been a hard drinker. He was anæsthetized like the others, without any preliminary period of excitement except that the procedure "greatly excited his hilarity."

Two other operations were performed, in which the ether was administered in the same way and with the same success.

M. Mollière thinks that anæsthesia by the rectal method is destined to be of great service in many cases. It suppresses the period of excitation; it permits one to regulate the dosage very exactly; it reduces to a minimum the amount of ether needed; it allows the surgeon opportunity to operate upon the face; it is a more agreeable method to those patients to whom the odor of ether is nauseating and objectionable.

Some better method of injecting the ether may be devised, but at present M. Mollière thinks that the introduction of a flexible tube and connecting it with a flask of ether placed in hot water, at a temperature of 40° to 60° C., is the best method.

Discoloration of the Hair.

Dr. George Thomas Jackson, in the *Jour. Cut. and Ven. Dis.*, June 1884, says: Under varying conditions of health and disease, the hair has been noted to undergo discoloration other than that of turning gray. Some of these changes are due to external agencies acting after the manner of dyes, and some to internal agencies.

Blue hair has been observed frequently amongst workers in cobalt mines, and in indigo works. *Green hair* occurs in workers in copper, the tone becoming darker from year to year till the hair becomes decidedly green. In both these cases the color is due to a deposition of the particles of the mineral or vegetable floating in the atmosphere upon the cuticle of the hair. The color can be entirely washed out, and the microscope shows that it is from without and not from within the hair.

Prentiss reports a case of change of color of the hair from light blond to nearly jet black in a patient suffering from pyelonephritis with anuria, for the relief of which muriate of pilocarpine was used hypodermically. The use of the drug was begun December 16th, 1880, and the hair began to change in twelve days. The drug was not administered after February 22d, 1881, but the color continued growing darker, so that by May 1st, 1881, the hair, which originally was light blonde with a yellow tinge, had become nearly jet black. The change in the color was noted both on the head and in the axillæ, and simultaneously with it the hair became coarser and more vigorous. The color of the eye changed from light blue to dark blue. These changes were due to increase of normal pigment.

That the color of the hair may change after death is shown by a case reported by Hauptmann, in which, on exhuming a body that had been buried twenty years, the hair was found to have changed from a dark brown to a red color.

Leonard cites a case in which after death a head of red hair changed, within thirty hours, to a gray color. Other cases have been reported in which, after illness, the hair has altered its color, gradually to regain its normal hue when recovery has taken place. Smyly has recently reported a case of suppurative disease of the left temporal bone, in which the color of the hair changed from a mouse-color to a reddish yellow. Squire reports a piebald condition of the hair of the head, occurring in a deaf and dumb boy of sixteen years of age. In this case the left side of the head of hair looked like the fur of a tortoise-shell cat, with light patches of true auburn tint and dark patches of dark-brown color, the patches being sharply limited. This condition had existed from birth. The other side of the head was covered with dark-brown hair. Exposure of the hair to the fumes of chlorine gas will bleach it.

Necropsies on the Drowned.

The *London Med. Record*, April 15, 1884, tells us that Dr. A. Lesser (*Vierteljahrsschr. für Gerichtl. Med.*, 1884, p. 1) reviews, from the point of his own experience, the *post mortem* appearances met with in the drowned, more especially with reference to diagnosis of the cause of death. He attaches but little importance to the data met with on a *post mortem* examination. The contents of the stomach and intestines are, he thinks, of no import. Inflation of the lungs proves nothing as to the cause of death. Apart from abnormalities of the pulmonary parenchyma, *e. g.* vesicular emphysema, considerable pulmonary œdema is constantly met with when the air-way is impeded, be the hindrance in either the smaller or the larger bronchi, in the trachea, or in the throat; and whether the obstruction take place during life or after death (*e. g.* ejection of the contents of the stomach). In capillary bronchitis, the relations of the smaller bronchial tubes to the pulmonary tissue are exactly the same as are constantly met with in drowning; also the presence of mucus in the larger bronchial tubes, as a cause of the pulmonary inflation, is irrelevant to the question. It is only when very abundant masses of fine froth are found, more or less completely filling the larynx and trachea, when the origin of this froth *in loco* is manifest (absence of œdema of the lung, *e. g.*), if simultaneously mucus in the smaller bronchi prevents pulmonary collapse, that, according to Lesser, the diagnosis of death from drowning can be made from the results of the necropsy alone; for, according to his experience, such aggregate results never ensue from catarrh. When, in an undecomposed corpse, with healthy respiratory organs, no inflation is found, and this in consequence of there being mucus in the smaller bronchi, death by drowning is excluded. In putrid bodies, or with the putrefactive processes advanced in the bronchi and the lungs alone, this conclusion is no longer tenable. The absence of air-vesicles in the larynx and trachea does not exclude the immersion of the body in the medium before death, just as the presence of air-vesicles in the tracheal and laryngeal fluids is compatible with the production of these after death.

V. CLINICAL MEDICINE.

Rheumatism and Typhoid Fever.

Before the Clinical Society of London (March 28th), Dr. **Finlay** read notes of five cases of Enteric Fever associated with Rheumatism, the first of which may be taken as a type for the whole. The patient was a man aged twenty-four, a porter by occupation, admitted under his care into the Middlesex Hospital for acute rheumatism on October 1st, 1883. There was a strong family history of rheumatism, and the man himself had had one severe and several slight previous attacks. For a week before admission he had complained of pain, redness, and swelling in the ankles, knees, and hips, the ankles being still affected on admission. His pulse was then 83; temperature 101.4°; tongue slightly coated; and there was a systolic murmur audible over the præcordia. The evening temperature on the day of admission was 103.4°. Treatment consisted of salicylate of soda in fifteen-grain doses, with cotton-wool to the painful joints, under which he rapidly improved. His temperature became normal on October 5th, when he was also free from pain; and he appeared quite convalescent and was allowed to get up on the 13th. He continued to improve till the 19th, when he complained of stiffness in the back and headache, and his evening temperature was found to be 102.6°. Next evening it was 104.2°, and from this time onwards the case presented the usual features of one of enteric fever. Rose-colored spots were observed on the 25th and following days; diarrhœa set in on the 28th; and on the 29th perforation took place, and he died on the 31st. At the post-mortem examination there was found general peritonitis, the result of a perforation through the lower part of the ileum. Two principal ulcers were found in the small intestine, the one that had perforated, free from slough and with undermined edges; the other, with clean granulating base, to which the edges were adherent, clearly of more remote formation than the former.

In order to establish the diagnosis of rheumatism, attention was drawn to the redness, swelling, and pain in the joints, the sour sweating, the endocardial murmur, and the history of previous attacks. As to the enteric fever, it appeared probable that it and the rheumatic attacks were co-existent on the man's admission to the hospital, the former being so slight as to be completely overshadowed by the rheumatic manifestations. The fatal attack was therefore a relapse; and this was attested by the different ages of the ulcers in the ileum, and by the course of the temperature. Of the four other cases, one, which was fatal, presented very similar features, the fatal result here being also due to perforation of the bowel, which occurred during a relapse. The remaining three presented no special features except the fact of enteric fever following upon an attack of rheumatism. Notwithstanding the fact that no mention was made, even in recent writings, of the occasional association of these two diseases, such association did not seem to be very infrequent. In connection with this view, it was a point of some interest that of seven patients in whom enteric fever became developed in the wards of the Middlesex Hospital over a series of years, five were admitted for rheumatism. Such cases as those recorded suggested the inquiry whether there existed a more than casual connection between rheumatism and enteric fever—an attack of one predisposing to an attack of the other. As regarded the fatal cases, the question arose whether the allowance of solid food after the rheumatic attack passed off was in any degree responsible for the death by perforation. Two practical points seemed to be deducible from such cases; First, that as solid food might increase the danger of perforation in enteric fever, cases of rheumatism occurring in the course of an epidemic of enteric fever deserved a more than usually narrow scrutiny, lest they should turn out to be something more than rheumatism merely; and, second, that if any close connection between the two diseases, such as that hinted at, should be found to exist, rheumatic cases should not be placed in close proximity to cases of enteric fever. Although the facts were insufficient to prove a predisposition, they suggested a case for further inquiry.

Sir Andrew Clark asked whether Dr. Finlay regarded the two diseases as co-existent, or as different results of one and the same cause.

Dr. Douglas Powell also inquired whether the two maladies were regarded as manifestations of the same disease. He had seen three cases bearing on the question. In one case, on the fifteenth day of the disease, typhoid symptoms were present, with signs of rheumatic fever. Some hæmorrhage from the bowels occurred on the forty-second and fifty-fourth days of the illness. A relapse of the typhoid fever followed; the case ultimately recovered. The second case was one of typhoid fever, which apparently resulted from exposure to sewer gas. Pericarditis and other signs like those met with in rheumatic fever existed in the course of the fatal disease, which all agreed was enteric fever. A third case was referred to. There was no break between the rheumatic signs and the symptoms of typhoid fever. The first instance showed the signs of rheumatism during the prodromal stage. He considered that these cases of mixed nature were really new diseases, since, so far as he knew, they had only recently been met with.

Dr. de Havilland Hall had seen a case recently in a girl, aged twelve, who had suffered from rheumatic phenomena for ten days or so. He diagnosed enteric fever from the tumid abdomen, diarrhœa, and fairly marked rose-spots. Rheumatism associated with typhoid fever preceded that disease; whereas in connexion with scarlet fever, rheumatism followed the fever.

Dr. Bernard O'Connor had met with rheumatic phenomena preceding diphtheria and enteric fever.

Dr. Hadden mentioned a case of enteric fever which presented tonsillitis and an attack of acute rheumatism towards the end of the disease.

Dr. Seymour Taylor thought the discussion wandered from the subject of the paper.

Sir Andrew Clark remarked on the variable character and duration of the prodromal period of typhoid fever. Various manifestations might arise during this period, which might extend over six weeks. Did rheumatic fever predispose to typhoid? There at any rate seemed to be a close kinship between rheumatism and enteric fever. In his belief rheumatism very often followed on typhoid fever. He in a measure concurred with Dr. Powell, and believed that new diseases and complications were to be expected.

Dr. Finlay replied that the continuity of the ill-health was completely broken, and so it was difficult to regard the rheumatism as occurring in the prodomal stage of typhoid fever. In all his cases, the typhoid fever probably followed the rheumatism.

Vocal Gymnastics.

Dr. M. F. Coombs thus writes in the *Louisville Medical News*, April 26, 1884:

It is not generally known that there are a few persons who possess the power of speech, and at the same time are unable to speak properly, simply because they are unable to determine when they have enunciated a sentence or word as it should be; or probably I had better say that such individuals are unable to tell when they have the voice properly pitched, or when they have the proper key. Such persons really have no regularity in their tones, as they produce bass, alto, and tenor in a single sentence, and in the most irregular manner that can be imagined.

This defect can hardly be called a disease, as there is no pathological change in any tissue associated with the organs of voice. The defect in the voice is in reality due to the lack of knowledge of how to regulate the voice, as is proven by the fact that the subjects of this defect may be relieved by practicing vocal gymnastics, or by exercising the larynx in a proper manner. The diagnosis of such cases of dysphonia is usually quite an easy matter, as the perfect condition of the vocal cords and the structures surrounding them, with the patient's ability to produce perfect vocal sounds, that is, perfect notes, when his attention is directed to the effort, will enable the observer to make the diagnosis. The diagnosis having been made, the treatment is matter of small consequence, as it can be carried out by the patient with but little difficulty, as it is entirely dependent on an effort of the will. Medicines are of no value; on the contrary, they are harmful.

Inasmuch as the treatment in these cases is to be entirely gymnastic, the first thing to be done is to teach your patient to know when he has spoken a word or sentence in a correct manner. This can easily be accomplished by having him to repeat a certain letter or word until he is thorough master of the manner in which it should be enunciated. When your patient has learned to pronounce the word *ba*, or the letter *d*, in clear, full tone, then he has the key by which he may complete the correction of his voice without the further advice of a physician. I think that it is best to place the patient in company with a friend who has the key, and who will remind him of every mistake that is made. In this way the defect will be overcome in a few days; while, if placed under circumstances where he could not be constantly reminded of his mistakes, it might take a much greater length of time to accomplish the undertaking.

I have had three of these cases under my observation within the last three years; the first occurring in the person of a young medical friend, whose voice was in such a condition as to make his conversation very disagreeable on account of the peculiarly squeaky nature of his tones. I examined his larynx and found its mucous membrane slightly congested, but not sufficiently to account for the great amount of hoarseness and irregularity of voice. Critical inquiry failed to elicit any thing which would lead me to believe that there was disease of any kind associated with the larynx or any of its appendages, which would induce such a state of affairs as existed. I then requested the patient to repeat certain words after me. This he was able to do in almost every instance with perfect accuracy. I had him to repeat the experiment till I was thoroughly satisfied in my own mind that the perfect tones which he produced were not accidental. Having assured myself on this point, I told him that there was nothing wrong with his larynx, and that it was only necessary to exercise the voice in order to be able to speak perfectly and with ease. He expressed a little surprise at this, and then said that he had a letter of introduction to a physician in a distant city; and that he felt compelled to present this letter, and obtain the advice of that gentleman, before acting on what I had recommended, inasmuch as he had promised a friend to have this doctor in the distant city to treat him. He called on the doctor, who examined him and confirmed what I had said about the case, and gave him a lesson in elocution, and instructions how to continue the practice, which he did with the result of obtaining perfect relief, and to-day he has as perfect control of his voice as any ordinary person, who is not a professional speaker or singer.

The second case occurred in the person of a young man, twenty-two years of age, who was employed as a clerk in a store. At puberty his voice underwent the usual change, viz., the change from that of childhood to that of manhood. The change in this instance was imperfect, and left the patient with an irregular voice, with almost any range, from a low bass up to a high tenor. His voice was, however, not under his control, as he had no conception of how to manage it, and was unable to determine when he had enunciated a word properly, that is, when it was spoken in the proper key. I assured him of his ability to speak properly, if he knew how. At first he became somewhat indignant, but after a time concluded to take my advice, and I gave him a *key* letter, and made him repeat it until he was able to determine when he had spoken it in a correct manner. He then went into the country to spend a few weeks, and when he returned his voice was regular and smooth, and he was able to speak with perfect ease, and continue conversation for any length of time without experiencing any fatigue.

The subject of the third case was a young German, twenty-two years old. His history was similar to that of the second. His voice, however, was almost constantly pitched in the tone of a high tenor, and he seemed to labor very severely in talking. In neither of these cases was there any evidence of disease, save slight congestion of the membrane covering the larynx. This was not sufficient to account for the irregularity of the voice. The treatment of the latter case was similar to that practiced in the other two, with result of correcting the defect in three days. I did not anticipate such a rapid recovery; but, however, it did occur, and I think it was largely due to the fact that he was associated with two companions who never allowed him to make an error in speech without correcting him. This patient called on me a few days since to assure me that his relief was permanent, and to express his gratitude for the services which I had rendered him.

It may seem useless to tell professional gentlemen that the voice is capable of cultivation, or, indeed, to even remind the laity that such is the case. It is a well-known fact to those who devote their time to the study and treatment of diseases of the throat that many amateur vocalists experience great difficulty in regulating their voices. This I am sure, in many instances, is from a want of the knowledge of the simplest rules of elocution. Singing is nothing more nor less than modified talking, and the individual who cannot speak in a clear and well-regulated tone of voice can not expect to sing; and if amateur vocalists would study the primary elements of elocution, and cultivate chest capacity, they would avoid many of the difficulties which they experience.

Dyspepsia.

We extract the following from a lecture by Prof. ROBERTS BARTHOLOW, published in the *College and Clinical Record*, May 1, 1884:

The first case which I bring before you is that of a lady, forty-eight years of age, who has reached the climacteric, and is going through the menstrual difficulties belonging to that period. She has not had a show since last December (two months ago). That may have been the last appearance of the menses; but in regard to that there is, of course, a high degree of uncertainty.

She, however, does not present herself on account of any menstrual difficulty; rather for an obstinate form of indigestion, accompanied by intense pain (gastralgia). The pain is worse at night; last night, for instance, she spent the entire night in bringing up large quantities of gas, and the severe pain continued until seven o'clock this morning. She is still suffering considerably from acute pain in the left hypochondrium. The gas eructated has no odor. This is a very important point. There is a great difference between a case in which the eructations have no odor, and one in which they have an offensive odor. The gas evolved from the stomach which is without odor is, of course, carbonic acid. If the gases were derived from compounds containing sulphur, or from the fermentation of the fats, they would be offensive, from the presence of sulphuretted hydrogen or from butyric and other fat acids.

What can be its source? I think it may be positively affirmed that the mucous membrame of the stomach has no power to secrete gas. In seeking for the origin of the large quantity of gas in this case, we must eliminate the possibility of its being a secretion from the mucous membrane of the stomach, and also the decomposition of the fats and sulphur compounds which are present in many of the nitrogenous aliments. The foods capable of producing carbonic acid gas must be those which undergo the acetic fermentation. The source of the carbonic acid is the fermentation of the starchy and saccharine constituents of the food. I have, on several occasions, referred to the fact that hollow organs owing their function, in part, to the presence of unstriped or organic muscular fibres, become painful under certain circumstances. The pain, in this case, is due to the gas greatly distending the stomach, and stretching the nerve filaments distributed to the walls of the organ.

You are probably aware that, at the climactaric period, women are very liable to suffer from an excessive production of gas. There is certainly a relation between the nervous system and the evolution of gas. What is the nature of this relation cannot be satisfactorily made out, but it does, undoubtedly, exist.

Such being the mechanism of the production of gas, and such its connection with the period of life, what shall be the treatment? We note, with amazement, that this patient, whether or not under instructions we cannot say, has fallen upon a diet which she regards as a very low diet, and one particularly suited to her condition, but which is peculiarly unfit. The diet has consisted, in a large part, of brown bread, oatmeal, and similar articles, meat being taken but once a day, and being regarded as rather injurious. There are few American adults who can eat oatmeal with impunity. With the Scotch it is the national food; but no people suffer more from dyspeptic disorders and skin eruptions than they do. Consider what happens when a large quantity of oatmeal is taken into the stomach. A solid, adhesive mass is at once formed, which is penetrated by the gastric juice with great difficulty. It is apt to undergo ordinary fermentation. There are individuals who, exceptionally, can digest oatmeal; but such activity of the function of digestion is not common in this country. In a case like this it is particularly unsuitable. It should be abolished from the diet. Brown bread, again, is a very fermentescible substance, and contains a good deal of saccharine matter in addition to the starch, common molasses or brown sugar being used in its preparation. This ought also to be excluded.

What then? This patient should be placed on a diet free from fermentescible constituents. We should provide nothing which will contribute to the evolution of carbonic acid gas. A great deal could be accomplished by restricting the diet to the most elementary constituents. What is the elementary diet? It is that provided for the infant during the earliest period of life. It is milk. This patient should at once adopt an exclusively milk aliment; and in order to render its digestion more easy, the cream should be removed. It should be skimmed once. To insure its digestion, one-fourth the quantity of lime-water should be added, and it should be given every three hours, for this is about the time required for the digestion of milk. About a gill will be taken on each occasion. A patient may well subsist on milk, as it contains all the constituents necessary for the support of the human body; but living on an exclusive milk diet is not an enjoyable existence. After a few days there is a great desire for solid food; there is a feeling of weakness or "goneness," and there is usually constipation. Notwithstanding these disadvantages, the patient should be encouraged to persist in the use of the milk.

How long should it be continued? The proper rule is to continue the milk until the symptoms for which it has been prescribed, disappear. That may be one, two, three, or even more, weeks.

What else should be done? After this course of milk, which should be exclusive, the patient taking no other aliment, and, in fact, no other drink, we shall add to the dietary such articles as are suited to her condition. Beef tea, made by mechanical process, and white of egg, could then be used. The yolk of egg should be avoided, as it contains fatty and other constituents which are difficult to digest.

What remedies should be given? It is necessary to give remedies which will relieve the gastralgia and at the same time prevent the fermentation of certain constituents of the food. Creasote is one of the best remedies for this purpose. It may be combined with bismuth and glycerine. It has been lately shown that glycerine has a decided power to prevent fermentation in the stomach, and thus prevent the subsequent distention due to the evolution of gas. I will prescribe the subcarbonate of bismuth, which is better than the subnitrate. The prescription will then be:

℞. Creasoti . . . . ♏viij.
Bismuthi. subcarb. . . . . ʒij,
Glycerini
Aquæ menthæ pip . . . . āā ℥j. M.

Sig.—To be well shaken and a teaspoonful given every three, four, five or six hours, according to the persistence of the pain.

This patient suffers from an extreme degree of constipation, and under the milk diet this symptom will be greatly increased. As a rule, in such a case it is better to relieve constipation by the rectal administration of remedies. Sometimes a saline does very well; a bottle of Congress or Pullna water, or a little Epsom salts will be sufficient. Better than this, as I have just remarked, is an enema at night, of half an ounce to an ounce of linseed oil, allowed to remain all night and followed in the morning by an enema of soapsuds. Instead of linseed oil, we may use an enema of castor oil suspended in mucilage.

Another remedy which is very efficacious in these cases, and which may be given in the prescription already mentioned, or separately, is arsenic. It has been found that in gastralgia and abnormal fermentation, Fowler's solution of arsenic is exceeding useful. It should be given in small doses, as one or two drops three or four times a day.

Neuroses of the Viscera.

The *Lancet*, April 12, 1884, thus forcibly comments on Dr. Clifford Allbutt's admirable lectures on this subject:

Dr. Clifford Allbutt's Gulstonian Lectures on "Neuroses of the Viscera" should mark the commencement of a new epoch in the history of Medicine, both as a science and as an art, in relation to large classes of maladies which have hitherto been misunderstood, and consequently maltreated. This may seem a somewhat broad assertion to make; but we believe those of our readers who have given these lectures the attention they deserve will not think we have over-stated the case. We can readily understand that enthusiasts of the pathological school, who can discover little of value outside the dead-house, and are apt to view every disease from the morbid anatomy standpoint, will not recognize any exceptional merit in Dr. Clifford Allbutt's disquisitions. The rigidly conventional clinician, too, may fail—more particularly if he be a specialist—to perceive the extreme value of the common-sense views the lecturer has set forth with so much commendable simplicity; but the *practitioner*, whose sole aim it is to obtain a key to the mysteries of obscure disease, and to find a way of curing it, will, unless we are greatly mistaken, hail these discourses as of more than ephemeral interest.

What Dr. Clifford Allbutt has undertaken to teach—and taught so ably—is indeed no new truth; but it is one which has not, so far as we are aware, been previously placed with equal perspicuity before the profession. For the first time a formal and broad affirmation has been made setting forth the important fact that by far the largest and most intractable classes of common maladies for which the aid of the medical practitioner is sought are of nerve origin; and if anything more than neurotic disorder occurs in their development, it is the effect, and not the cause of the trouble, which the physician is called upon to treat. Only those who have carefully read these lectures, and studied the numerous cases cited therein, can form an adequate notion of the area of clinical work covered by the self-evident inferences which the practitioner must perforce draw from the premises laid down. Something like a panic might be expected to occur among the gynæcologists, but that we know how persistent are the opinions of those who are persuaded against their will. It is, however, hardly possible that there should not be some sort of rejoinder to such spirited though friendly pronouncements as the following: "Now, gentlemen, it is time we complete our reaction from this gynæcological tyranny, and that we of this College no longer permit ourselves to be snubbed by these brethren of ours, who calmly tell us, with their superior airs, that our use of such expressions as uterine neuralgia, irritable uterus, ovarian neuralgia, neurasthenia, and the like, comes of a shallow sciolism; and is grounded upon the emptiness of our knowledge of uterine diagnosis. The spirit of meekness alone restrains me from throwing the same stone again, and accusing our gynæcological friends of ignorance of neuropathies and of the neurotic diathesis."

In proof of his position the lecturer has adduced concise but clear notes of a sufficient number of cases, in which "affections" of the uterine organs long under "local treatment," and unrelieved, have been promptly remedied as soon as they have been recognized in their true character as maladies dependent on neuroses. It is not, however, solely, or even particularly, against the specialism of the gynæcologists that the argument of these lectures is directed. It is shown with equal force and clearness that the great majority of visceral disorders and disturbances, whether of the circulatory, the respiratory, the digestive, the assimilating, or the excretory organs, are essentially neurotic. This is a great truth, which is, happily, beginning to dawn on the profession at large, and which cannot but prove to be little short of revolutionary in its influence on practice. We are justified in calling it a great truth, for it is, in fact, the application of that universal law of nature with which the name of Darwin is indissolubly associated—the Law of Development—to the diagnosis of disease. Function *always* precedes organism in the order of development, and it follows as a necessity that derangements of function must precede abnormalities of structure, if not in the individual manifestations, in the generic growths of disease. And if this be so, the innervation must be at fault before the organ fails. The soundly practical view Dr. Clifford Allbutt has propounded to so much purpose in these lectures, and which must, we are persuaded, on consideration elicit the approval of every *general* practitioner in the country, is that the art of healing should aim at grappling with the neurosis first, whatever it may do with the organic state or local changes induced by the nerve-distribution afterwards. In short, local trophic changes, perverted secretions, and structural abnormalties, are the effects or "symptoms," not the causes of the disease, which disease is the neurosis.

The strongest part of the work done by Dr. Clifford Allbutt is perhaps that which relates to the elucidation of gastric disturbances. It is in dealing with the group of maladies connected with or dependent upon what is so stupidly called "indigestion" or "dyspepsia" that the clinical tact and experience of the physician come prominently to the front; and in this department of work he has beyond question a wide field, not at the moment too well or wisely cultivated. It is impossible not to feel that Dr. Clifford Allbutt has reason when he contends that it would be as rational to group all the disabilities for muscular exercise such as walking—from locomotor ataxia to a sprained ankle—under the term dyskinesis, as to class the divers forms and effects of bad stomach-work under the meaningless word "dyspepsia." There will be many criticisms of, and probably not a little cavilling at, Dr. Clifford Allbutt's strictures on the subject of visceral neuroses; but the prominence he has given to one of the most interesting and, as we believe, pressing questions in practical medicine cannot fail to advantage both the profession and the public.

Paralysis From Peripheral Irritation.

The *Med. Record*, May 24, 1884. says: When a mixed nerve-filament receives an injury, it is not unusual to observe a complete loss of sensibility and movement in the parts supplied by the nerve of which this filament is a branch. But it is more rarely that one observes notable disorders of sensibility and mobility in regions more or less removed from the seat of the injury, and thus far no very satisfactory explanation of this phenomenon has been given. Several cases of this character were seen during the War of the Rebellion, and Keen, Mitchell, and Morehouse have published seven cases in which paralysis supervened immediately upon the receipt of the injury. Mitchell has recorded two very interesting cases; one of a wound of the thigh probably involving the sciatic nerve, in which, besides the natural result of paralysis of the right leg, there was also reflex paralysis of the right arm; in the other, in which the right crural nerve appeared to be injured, the right leg and arm were paralyzed.

Interesting cases of this kind were also seen in the Franco-Prussian war, but differing as to the date at which the paralysis began after the injury. In these the paralytic troubles commenced some time after the traumatism, and hence it would at first seem that they should not receive the same interpretation as the first-mentioned cases.

Bumke reports a case of gunshot wound of the chest, in which, fifty-four days afterward, there was great weakness of the right upper extremity, with partial atrophy of the forearm and hand and contractures of two fingers. Leyden reports a case in which paralysis commenced a year after the traumatism, and another in which it suddenly appeared three years afterward. Schwahn reports a similar case.

Bidon reports (*Revue de Médecine*, April, 1884) a most interesting case. The patient was quite severely wounded, by the breaking of a porcelain pôt-de-chambre upon which he was sitting, in two places, the one just in front of the coccyx in the median line, the other immediately behind the anus, and formed by the junction of two incisions. Ten days afterward small pustules appeared about the coccyx, in the genito-crural folds, and on the internal aspect of each thigh. They attained their maximum development in twenty-four hours, but were succeeded by others, and did not entirely disappear for about two months.

About one month after the injury the patient began to complain of pains in the right knee and along the crest of the ilium, erythematous spots making their appearance in these places at the same time; subsequently ulcers developed at these points. Just as the patient seemed on the point of recovery, a new set of very interesting symptoms appeared. He began to feel weak in the legs and complained of formications; the upper limbs became weak, and delicate movements were impossible; and when the paresis became more generalized, anæsthesia set in. These symptoms attained their maximum in about a month, and three months after the injury the man was scarcely more than what might be called a thinking vegetable. The muscles of the neck and face and of respiration were unaffected, the limbs and trunk were paralyzed and anæsthetic, and the tendon reflexes were abolished. This state lasted about fifteen days, when, under the influence of strychnine, the patient began to improve, and was practically well in another month. Professor Lépine reported, in 1875, two very interesting cases of this character, in which the paralysis was caused by thoracentesis. The paralysis in one case lasted for one hour, and then gradually ceased. The patient was subsequently aspirated several times, and each time the same phenomena occurred.

Seeing, then, that paralysis may supervene at any time more or less remote from the time of injury, it is proper to inquire: Are these phenomena simple coincidences, or are they due to the traumatism? And how are they produced? With regard to paralyses coming on immediately after the traumatism, it would seem that they must necessarily be the result of that traumatism; for there is no other cause by which they can be explained. Just why an injury should cause these symptoms cannot be very satisfactorily explained. Certainly the explanations thus far offered by Vulpian, Brown-Séquard, Jaccoud, and Weir Mitchell, are somewhat contradictory and not entirely satisfactory. Bidon considers paralysis coming on immediately after traumatism as the result of the injury, and thinks that it is sometimes caused by reflex vascular constriction acting on various parts of the cord (Brown-Séquard), sometimes from an abolition of the medullary functions by shock (Weir Mitchell), and more persistent by the continuity of the excitation due to the wound (Jaccoud).

The paretic accidents coming on some time after an injury are also due to the traumatism. In the nine cases cited by Bumke, Leyden, Schwahn, Lépine, and Bidon, there was no other paralysigenic cause. The pathogenesis of these paralytic accidents is easily understood if the cases now on record are compared with typical examples, notably the one recorded by Trousseau, in his *Clinique*, I., 492, of diphtheritic paralysis. From a symptomatic point of view, there is a very great resemblance between the two.

Traumatism, then, may cause paralysis due to lesions of nerve-filaments (ascending neuritis) and of the cord; and the best name for this paralysis is that proposed by Weir Mitchell, *paralysis from peripheral irritation.* It may be added that Landouzy has arrived at almost exactly the same conclusions as regards paralyses following acute diseases.

Thromballosis.

Dr. GEORGE N. MONETTE thus writes in the *Jour. Am. Med. Ass.*, May 17, 1884: The phenomena typical of thromballosis (and embolism), in contradistinction to apoplexy, coincident with rupture of a cerebral vessel, are of a more pronounced and complicated character than those of apoplexy.

Although apoplexy, in the aged, may be more rapidly fatal, yet an embolism may be complicated with diversified phenomena, and the patient may linger for a long time.

The differentiating feature being that in embolic cases the pressure upon brain tissue is from within outwards, but circumscribed by the limits of the dilated vessel, and not diffused over the adjacent tissue, similar to *extra-vascular*, as occurs when rupture of vessel takes place, thereby causing extensive circumjacent pressure and obliteration of cerebral function; often profound coma, or *bona fide* apoplexy is caused.

We know that the predisposing cause of apoplexy is an atheromatous degeneration of the internal coat of arteries, *vice-versa*; in thromballosis the pathology is induced by an endarteritis or phlebitis, yet the inflammatory phenomena are really not acute enough to attract serious attention in some cases.

Very recently, several cases of thrombus and embolism have come under my observation and treatment, as I was able to interpret the symptoms.

Case I. Will S., aged 23 years, a wild and dissipated character. Had had syphilis, but was treated some time prior to my attendance upon him. I found him with an acute diarrhœa, induced by drastics. Associated with this were aphonia and unilateral paresis, which yielded gradually to quietude and alkaline treatment (pot. iod). Motive coördination was almost wholly regained after a fortnight. When acute unilateral facial paralysis and contraction developed, I added strychnine to the compound, with success.

In connection with the treatment of this series of cases, I must not overlook the inestimable advantages derived from the internal administration of ergotine. So, in the foregoing case No. 1, I ascribed much of the benefit acquired to the joint efficacy of ergotine.

Some weeks subsequent to the manifestation of the unilateral facial paresis and its relief, the young man developed violently insane and murderous features; intensely irascible and as suddenly humiliated, and ultimately morose and subdued. These paroxysms of insane violence (sometimes alternated by fits of immoderate laughter, conveying an hysterical nature) continued up to his demise, which was resultant upon an attack culminating in apoplexy. No post-mortem could be obtained. He survived his incipient malady about six months. Syphilis may have been a potential factor in the predisposition of such a lesion, superinduced by hypercatharsis. I have observed numerous developments of a similar nature with no specific taint.

Case II. Mrs. ——, aged about 31 years, mother of several children (all healthy); of prior good health. Catamenia regular; devoid of uterine disorders. She was addicted to the use of patent cathartics, and was suffering from the violent effects of the same when I was called.

I found her with an unilateral transient paresis, with loss of motion. Modified sensation. No perceptible diminution of surface heat or of temperature, save of podalic extremities. There was some contraction of the facial muscles, also an irrepressible disposition to alternately immoderate paroxysms of laughter and grief, resembling hysteria. In view of the pathology of the case, as I appreciated it, I adopted the *nihil* treatment for several days, when I ordered the following:

℞.	Potassii iodidi		ʒij,
	Liquoris potassi arsenitis		ʒij,
	Ext. ergotæ fluid.		
	Tinct. Gentianæ	āā	℥i.

Sig.—Teaspoonful every 4 hours.

Which was continued for several weeks, when she recovered sufficient strength to walk about with the support of chairs, railing, etc.

Her general health continued good for about a year, when I was called again. I observed a recurrence of the identical hysterical phenomena, with exaggerated sensations and some tingling in the affected side (left), which alarmed her. I ordered an enema of chloral (ʒss) potassi brom. (ʒj) for the night. Upon my next visit, I renewed the prescription for her former illness, which proved beneficial as formerly.

Case III. A gentleman was aroused during the night, and found his wife in convulsions. I was called, and saw her still comatose, yet emerging somewhat from the seizure, with an occasional respiratory stertor, and as often relapsing into an apparent respiratory indolence. I saw no hope for her recovery. She died within four hours. She was *enciente* (about three months). Her husband related that she used cathartics immoderately, with the consequent perversion of her assimilative energies.

I ascribe the phenomena of these cases to *hypercatharsis*, provoking malassimilation, anæmia, hydræmia, ultimating diversely in each case as above reported.

Incontinence of Urine.

Dr. Roberts Bartholow reports this case in the *Archives of Pediatrics* for May, 1884:

This colored boy of fourteen has had incontinence of urine for most of his life. This is a malady that has to be looked at from several points of view.

First as to his bodily constitution. There appears to be nothing peculiar in that. He has the neurotic type, it is true, but that would not be sufficient to account for the trouble, although it favors its production.

Many cases are due to a condition which we find here. The bladder acts in this irresponsible way because it is unduly stimulated by the urine. In this case the urine is intensely acid. That is unquestionably a factor in the production of incontinence. The acid urine keeps up a constant irritation of the mucous membrane. Of course, if the sphincter of the bladder acts in a normal manner, there cannot be incontinence, no matter how irritating the urine may be. The office of the sphincter is partly voluntary and partly under the control of the sympathetic system, so that, under normal circumstances, the urine does not flow away when the attention is taken from the bladder. When it is desired to empty the bladder, every person is conscious that the effort is voluntary; —the flow of the urine is solicited by relaxing the sphincter. In this case, during sleep, the sphincter relaxes of itself and the urine dribbles away.

We have then two factors, the acid urine, and relaxation of the sphincter. There may be still a third condition; namely, an abnormal contractility of the muscular layer of the bladder occurring during the period of sleep, and the will not being in action the sphincter is overpowered. If there is this spasmodic contractility of the muscular layer of the bladder, the cause of it is, in all probability, to be found in the condition of the urine. The acid urine continually acting on the mucous membrane keeps up a reflex effect and causes spasmodic contractions.

To these three factors a fourth might be added. There are but few cases of this fourth variety. Incontinence, or what is called incontinençe, sometimes occurs, because the person habitually dreams of passing water whenever the bladder is full. He feels the impression of the urine, but the sphincter still maintains its control. It is the brain which is at fault. The subject dreams that he has an inclination to pass water, and that he steps aside to some convenient place and empties the bladder. The treatment of such a case is different from that of the others. This patient does not dream of passing water. The conditions present in his case are, first, an acid condition of the urine, second, weakness of the sphincter, and third, spasmodic contraction of the muscular layer of the bladder.

In order to overcome the acidity of the urine, I prescribe the persistent use of some alkali, preferably an alkaline salt of potassium. Nothing is better than the bicarbonate in the form of an effervescent draught. We next need to give some remedy which will keep the sphincter in action. The best for this purpose is ergot. I will order a pill containing one-fourth of two grains of aqueous extract of ergot, and with this may be combined advantageously one-fourth of a grain of extract of nux vomica.

A third thing may be done, that is, diminish the contractile power of the muscular layer of the bladder; and the best remedy to accomplish this is a bromide. This will be given in a single dose at bed-time to lessen spasmodic action. A bromide is particularly indicated in those cases in which the patient dreams of passing water.

If the patient were anemic, we could not do better than prescribe the iodide of iron, which, under such circumstances, is of decided benefit.

Milk Treatment of Disease.

Dr. JAMES TYSON read the following paper before the late meeting of the American Medical Association:

In the course of a somewhat extended experience with what is known as the "milk cure," it has occurred to me that the growing popularity of this form of treatment, demanded, at this time, some systematic consideration of the principles and practice on which its use is justified, as well as an outline of the class of cases in which it may be expected to be of advantage.

It is now a little more than eighteen years* since Dr. Philip Karell read his paper on the "Milk Cure" before the Medical Society of St. Petersburgh.

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*On the Milk Cure, by Philip Karell, M. D., Physician to His Majesty, the Emperor of Russia. Translated from the author's manuscript, by G. L. Carrick, M. D., Physician to the British Embassy at St. Petersburgh. *Edinburgh Medical Journal*, Vol. xii, Pt. I, p. 96, Aug., 1866.

To this paper I must refer for a large number of interesting historical facts, of both ancient and modern date, bearing on this subject, beginning with Hippocrates and coming down to the date of the paper itself. Among the diseases for which it had been recommended during this period, were phthisis, gouty affections, particularly articular, sciatica, leucorrhœa, hectic fever, dropsy, typhoid fever, intestinal obstruction, Bright's disease, intermittent fever, obesity.

Karell himself numbers the cases of successful treatment with milk "by hundreds." Dr. Inozemtseff, the author of a work on the "Milk Cure," published in Moscow in 1857, treated, with the help of his assistants, 1,000 cases. The former further says, "With regard to my own practice I have, after fruitlessly trying all sorts of remedies in many chronic and obstinate diseases, at last succeeded in bringing the alimentary canal, that seat of so many diseases, under my control. I did this by administering milk according to a new method." He says also, "After a great deal of experience, I have arrived at the conclusion, that in all dropsies, in asthma, when the result of emphysema and pulmonary catarrh; in obstinate neuralgia, when its cause lies in the intestinal canal; in diseases of the liver (simple hypertrophy and fatty degeneration), and generally in diseases when there is faulty nutrition, often a consequence of obscure subacute inflammation of the stomach or intestines, followed by affections of the nervous centers—in all these cases I consider milk as the best and surest of remedies. Even in those cases where the dropsy is the result of organic heart disease, or of old standing liver complaint, or of far advanced Bright's disease, I have seen very marked improvement take place, which also lasted a considerable time."

I have thus freely quoted Karell, because I believe the date of his paper marks an era in the history of the milk cure. He was instrumental in directing the attention of many to this method of treatment, and among them Prof. Niemeyer, who writes to him in 1861: "I thank you sincerely for having recommended the milk cure to me. I often resort to it, and can praise it highly. If one were to acknowledge the existence of a number of diseases, the cause of which is not to be sought for in the remediable affections of certain organs, but rather in a perverse nutrition of which we are unable to define either the extent or nature, we must then admit the curative virtues of milk, and regard as a true advance in science, the discovery that this aliment is an innocent, and at the same time efficacious remedy, for producing a complete change of nutrition."

Referring to the extraordinary success claimed by some, Karell says he has no faith in so large a number of fortunate cases. He does not attempt to decide whether the beneficial influence of milk in certain illnesses is due merely to its nutritive qualities or some occult medicinal virtue. He simply calls attention to the fact that milk and chyle resemble each other very closely, insists that it must be taken at regular intervals under the direction of an experienced person, in doses from two to six ounces of *skimmed* milk, and that the best results are only obtained when the diet is an exclusive one. He further characterizes it as a regulator of nutrition.

My own experience with the milk treatment includes the following classes of cases: diabetes, calculous disease, Bright's disease, dyspepsia, obesity, and certain instances of the so-called nervous prostration in women, in which its use formed a part of the treatment by rest, seclusion, massage, and electricity, and which has produced such satisfactory and widely known results in the hands of Dr. S. Weir Mitchell, of Philadelphia.

First, as to *diabetes mellitus*, it is now generally conceded that no measures are so efficient in removing the sugar from the urine, and relieving other symptoms, as the dietetic, and of the dietetic treatment none has been so promptly efficient in my hands as an exclusive milk diet. As to the degree in which relief is afforded, it must be admitted that a cure cannot always be guaranteed. The possibility of this depends upon the lesion at the bottom of the disease. But I add my testimony to that of Donkin and others to the effect that a certain number of cases are completely relieved, and that the symptoms do not return, after a cautious addition to the milk diet, and gradual substitution by nitrogenous, and, still later, even by starchy and saccharine foods. Other cases, again, show no sugar in the urine as long as the milk diet is continued, although this and other symptoms recur immediately that it is omitted and other food is substituted. In a third class of cases, sugar is much diminished, but does not disappear, and in such instances I have invariably found, in the most carefully conducted comparative experiments, that no other treatment is as efficient in diminishing the glycosuria. In a last, and smallest number of cases, the milk diet is really badly borne, and it is impossible to carry it out; but in the large majority it is the most efficient remedy of which I know.

My method of exhibiting milk in diabetes, and indeed in all the conditions, to which I will refer as adapted to it, is to begin with half a tumbler-full, or four ounces of skimmed milk every two hours, for the first day, from which it is evident only thirty-two ounces, or a quart, can be given from 7 a. m. to 9 p. m. This is, of course, insufficient for an adult person, and even the second day I increase to six ounces every two hours, and after a day or two more to eight ounces, in which way sixty-four ounces, or two quarts are reached in the period named. This amount is quite sufficient for many persons of both sexes with small frames and light weight, but is quite insufficient for others, for whom the quantity may be increased by taking more at one time, or beginning a little earlier in the day and continuing later; or a glass or two may be taken during the night. Or, the interval may be increased to three hours, when still larger quantities must be taken at a time, until an amount sufficient to appease hunger or to maintain a good weight is reached. I have known twelve and a half pints to be taken per day by a large man whose average weight was 195 pounds; but it is very seldom that so much is needed, and its ingestion becomes very inconvenient. When, however, such quantities are necessary, a part may be taken in the shape of curd, as suggested by Donkin. Thus, the man just referred to, took the curd from four and a half to six pints, and drank the remainder of twelve and a half pints per day, he having found this much necessary in order to retain his weight while exercising actively during the day. While using eight to ten pints a day, part in milk and part in curd, he lost a half to three-fourths of a pound daily, although his health and strength continued perfect.

It is impossible to lay down a rule as to the quantity required in the twenty-four hours, but it may be roughly put at from five to ten pints for persons of medium stature. the larger quantity being necessary for those who are exercising, and the smaller for persons at rest.

The milk should be taken slowly, and not gulped in large amounts at a time. Not less than five minutes should be occupied in the drinking of a single glass of eight ounces. Nor should it be taken very cold. In summer the temperature should be about 60°, or a little below that of the surrounding atmosphere, and in winter it may be raised to the same temperature, or even slightly warmed, but it should not be boiled, unless diarrhœa is present.

Such a diet is, of course, quite compatible with health and strength for an indefinite time. And while I hardly advise that no attention be paid to the complaints of those who say that milk does not agree with them, I always insist on being allowed to settle that question myself by actual trial; and it is well known that where unskimmed milk is not well borne, producing, as it sometimes does, discomfort from flatulence or other cause, the skim-milk may be taken without causing any such sensations. Should the latter still disagree, which is very rarely the case, the liberal addition of lime-water in the beginning, say but an amount equal to one-fourth, or even one-half the milk used, will often correct the difficulty; and later the milk can be gradually resumed in full strength. Occasionally, too, persons will complain of feeling weak upon a milk diet. This complaint, which is also often unfounded, may be met by increasing the amount prescribed.

A complaint of greater importance is the constipating tendency of a milk regimen, particularly at first. But this may be corrected by the daily use, if necessary, of one of the saline aperients, of which sulphate of magnesium is one of the best, or one of the aperient mineral waters, as Hunjadi Janos, or Friedrichshalle, or some one of the Saratoga aperient waters; or if these are insufficient, a pill of compound extract of colocynth, podophyllin and extract of hyoscyamus may be used; or a cup of black coffee in the morning may be sufficient. In many cases this symptom disappears after a time, and the whitish, almost odorless evacuations continue daily.

In diabetes mellitus, more than in any other conditions to which the milk treatment is applicable, it should be exclusive, at least at first. My plan is to continue the milk until sugar has been absent for from four to six weeks, after which I gradually add other foods, beginning with unskimmed milk, meats, oysters, fish, tomatoes, the green vegetables, gluten bread, fruits. The urine is tested after each addition of food, and if glycosuria is found, the article of food responsible for it is omitted for a time longer.

If I am asked the rationale of the action of skim-milk in the treatment of diabetes, I am compelled to admit that I have no reason to believe it is directly curative. The most that can be said of it is that by furnishing a food which is non-irritating and easily assimilable, even as to its saccharine constituent lactose, we give a rest to the starch and sugar assimilating apparatus, and allow the reparative tendency of nature to assert itself, and the hepatic or intestinal condition which causes the glycosuria, to disappear.

This is no time to discuss the pathology of diabetes, but there can be no doubt but that a certain number of cases consist in a simple organic or functional derangement of organs which only require to be let alone in order to restore themselves to a normal state, while the irritation caused by foods which can only be assimilated through their offices, must result in more or less permanent lesions.

There are few who have not realized in some degree the suffering incident to the use of an inflamed muscle which prompts us to place it in a state of rest. The liver can make no appeal of this kind against its abuse; and whether the condition as the result of which it cannot make the normal disposition of the glucose be primary to it, or secondary to a primary lesion elsewhere. the continued use of such foods can only aggravate both primary and secondary lesions.

Now, the skim-milk furnishes a food of a kind which gives the liver a thorough rest—and a more complete rest than any other diet as yet suggested. This, I am forced to admit, is the only way in which I conceive it acts in the cure of diabetes. Hence, it is that there are certain cases due to lesions remote from the liver, which are themselves incurable, either spontaneously or through direct treatment, which milk cannot reach; such, I believe, are some forms of pancreatic disease. In these cases, the lives of the patients are prolonged by any diet which furnishes the requisite reparative and force-producing elements in an available shape. In such case, a starchy and saccharine food is wasted, simply because the resulting grape sugar passes directly through the system. Milk and the albuminous foods, not being converted to any extent into grape sugar, are still available as force producers, and thus defer the unfavorable termination, or, in a word‘ keep the diabetic from starving.

It may also reasonably be asked, why is skim-milk superior to unskimmed? I believe any superiority consists in the fact that milk deprived of its cream is simply more easily assimilable than unskimmed milk, and therefore less likely to disturb digestion. There are probably none here who have not heard the complaint from certain patients that a milk diet makes them bilious, by which is merely meant that it causes indigestion. And there are doubtless many who have found the substitution of skimmed milk to remove these symptoms. I have, too, quite frequently observed that whatever food produces indigestion in a diabetic, is apt to cause an increase in the glycosuria, independent of its composition, and I have sometimes thought that the use of the curd I have alluded to causes a slight return of glycosuria from this cause.

On the other hand, as already stated, I am quite in the habit of gradually adding unskimmed milk to the skimmed in cases of diabetes, and where there occur no symptoms of indigestion, I have continued it before adding other articles of food. In like manner, peptonized skimmed milk in which the casein is partly digested, is even more easily assimilated than the non-peptonized.

A second class of cases, in which the skim-milk has been of signal usefulness in my experience, and in which its results are capable of a more rational explanation than in diabetes, are cases of *uric acid gravel.* I have yet to see an instance of persistent uric acid sediment, in which the exclusive use of milk was not followed, sooner or later, by a total disappearance of the deposit, while I have known its persistent use to be followed by the easy discharge of uric acid calculi of considerable size, *per urethram.*

The rationale of these results has been made perfectly plain by the chemical study of the urine of persons on such a diet, by Dr. John Marshall, of the University of Pennsylvania, undertaken at the suggestion of Dr. Mitchell, a year ago, and repeated recently for me. It is rather singular that although skim-milk has been used for so many years in diseases involving a study of the urine, examinations of this kind were not previously made. The most important result of these analyses, is the fact that in the total twenty-four hours' urine of persons on the skim-milk, *no appreciable amount of uric acid could be found.*

Here too, as might have been expected, the same results obtained, whether the patient used a diet of skimmed or unskimmed milk. Dr. Marshall examined for me for three days in succession, the urine of Mr. M., who had been for several weeks upon a diet of unskimmed milk. The quantity of milk ingested during these three days, was on the first day six pints, or 2,838 c. c.; on the second day the same, and on the third day five pints, or 2,365 c. c. The quantity of urine passed, was on the first day, 1,356 c. c.; on the second day, 1,580 c. c.; and on the third day, 1,070 c. c. The total urea in the first was 31.59 grams, in the second 27.96. and in the third 19.68. *Uric acid was not present in recognizable quantities.* —*i. e.* 500 c. c. of each sample evaporated to dryness and properly extracted, gave no reaction with the murexid test. Dr. Marshall says further: "Uric acid probably might be found if five or six liters of the urine in question were evaporated to dryness and tested, most likely, however, only a trace."

Here, then, we have a simple rational treatment for uric acid gravel, and as successful as it is simple. There seems, too, to be no reason why the milk should be skimmed for this use, rather than unskimmed, while the latter has the advantage that a smaller amount is needed to satisfy hunger and keep up the weight of the body.

As to the propriety of an exclusive milk diet in these cases of uric acid gravel, it may be determined by experience. While it may not be necessary in every case, in some it is absolutely so. In the case of Mr. M., who had several severe attacks of nephritic colic, and who, under ordinary mixed diet, as constantly passes a large daily amount of uric acid, as he is constantly in discomfort, the addition of bread only, to a meal, causes a return of uric acid, while a pure milk diet is unattended by such discharge.

While an exclusive milk diet is so efficient in cases of pure uric acid gravel, it is not to be especially recommended in *phosphatic calculus.* Indeed, it is rather contra-indicated. For the effect of a milk diet is to alkalise the urine, and therefore to tend to maintain a phosphatic sediment.

While nothing can be hoped for in respect to solvent action, or tendency to solvent action upon *oxalate of lime* sediments, by urine derived from a milk diet, yet, as is commonly supposed that the same conditions of system which tend to produce uric acid are those which produce oxalate of lime, it may be expected that milk treatment will also be useful in the oxalate of lime tendency.

The third set of diseases in which I have found the milk treatment especially useful, are certain forms of *Bright's disease.* In these, more discrimination has to be exercised than in any of the foregoing. In general, it may be said that it is in the contracted kidney of interstitial nephritis that milk is most useful, the headache, nausea, vertigo, and "fulness" in the head, and the palpitations which are so often very annoying symptoms, are frequently relieved by it. Here, too, the skimmed milk is especially indicated, because anything which increases the labor of digestion, aggravates the symptoms above mentioned as characteristic. It would seem, too, that those suffering with contracted kidney are better when the blood is not too good in quality or too rich in solids. On the other hand, it is not so necessary that the diet should be exclusively milk, and a sufficient quantity of bread and vegetables may be permitted to break up the monotony, while meat, eggs, and all foods rich in albumen should, as a rule, be prohibited. In this disease, especially, the constipation incident to a milk diet should be guarded against.

In parenchymatous nephritis and amyloid kidney, I have found milk less useful, while it is still a very convenient and suitable diet, often producing diuresis and relieving dropsies. When a diuretic effect is desired, buttermilk is to be preferred, while it is as easily assimilated as skim-milk, and often more palatable.

That a milk diet should be useful in certain cases of *gastro-intestinal disease*, is generally recognized. There are two classes of cases for which it is adapted. The first is that represented by the ordinary dyspeptic, whose symptoms are sometimes dispelled as by magic by a pure skim-milk diet systematically carried out, and modified by the free addition of lime water. In a few instances of ordinary dyspepsia, I have found the use of milk to produce flatulence, and to be illy borne, but this tendency is corrected by peptonizing the milk.

At the same time, I cannot too strongly recommend in all cases of simple dyspepsia where other measures have failed, a trial of the milk treatment in the systematic manner described, and modified as the peculiarities of the special case may demand, and especially in the event of failure with simple skim-milk that the peptonized milk be tried.

But it is more particularly in the treatment of organic diseases of the gastro-intestinal tract that the bland and unirritating qualities of milk diet are indicated. In gastric ulcer, the use of no other food than peptonized milk should be permitted. In chronic enteric disease of both small and large intestines, and particularly of the latter, it is very doubtful whether it is in our power, by therapeutic means, to directly affect the diseased parts. Our treatment must therefore consist in such measures as will favor nature's inherent tendencies to restore lost tissue. This can only be done by placing the patient on a diet which is non-irritating, leaves little waste, and at the same time makes the smallest demand upon the digestive function. To accomplish this, it is necessary to obtain his consent to the use of a diet of peptonized milk for an indefinite period; for no promises can be made as to the date at which other food dare be permitted. The uninterrupted presence of natural stools, and the continued absence of pain, are the only reliable criteria. To be able to carry out such a treatment satisfactorily, it is absolutely essential to secure the confidence of the patient. The process of obtaining this depends largely upon the personal qualities of the physician, and the ability to be able to speak authoritatively; but when the probability of almost certain recovery is held out, and it is shown that the good effect of weeks of treatment are undone by so simple a solid as a small piece of bread, the battle is half won. Particularly in those cases of irritation of the large bowel, attended by the discharge of mucus or mucus-casts, may we expect from the milk treatment the most satisfactory results, while success by local treatment is very rarely attained. The use of milk is rational, and consistent with what we know of the essential conditions of growth and repair.

I will allude to but one more use of the milk treatment, referring to Dr. Mitchell's little book on "Fat and Blood" for a better exposition than I can give of its use in the class of cases in the treatment of which he has earned so much reputation. The purpose to which I will refer is that for the removal of excessive *obesity*, and for this a skimmed milk is necessary. No treatment which has ever been suggested, is half so efficient. I have seen a lady disposed to obesity, who, in consequence of a more than usually quiet summer, and the liberal use of food, return to the city so much increased in flesh that she could not put on the clothing which a few months before was worn with ease, and suffering with a shortness of breath which made walking any distance almost impossible, resume in the course of two weeks' use of skim-milk, her usual weight and state of comfort. In these cases, a pint of milk may be taken every four hours, or fifty-six ounces in the day, with directions to take more if hunger is not appeased. It is scarcely likely that even with this freedom too much can be taken to prevent the desired reduction in weight. It will be remembered that I referred to the case of a large man who was able to retain his weight upon twelve and a half pints a day; but when consuming ten pints daily, lost half a pound each day.

It may not be proper in all instances to reduce the weight so rapidly as can be done upon a skim-milk diet, especially when the subject is active or hard working, but it is to be remembered that obese persons are not usually of this kind, and that activity is facilitated by some loss of flesh. It is to be remembered, too, that the fat they carry is simply stored up in the subcutaneous tissue, because it is more than enough to supply the force-demands of the human machine, and has really had no use until the requisite daily amount of oxidizable material is not supplied in the daily food. Hence it is that when the weight is reduced approximately to a certain standard ratio to height, unskimmed milk or other articles of food should be judiciously added to furnish sufficient oxidizable material. But it is an interesting and important fact that when a certain stage of reduction is attained, further falling off, even with a moderate amount of milk, ceases, or takes place so slowly that it is easily made up by additions to the diet, to which, of course, there is no objection at this stage in the condition under discussion.

Notes of Practice.

Dr. C. C. P. Clark thus writes in the *N. Y. Med. Jour.*, June 7, 1884: Most of us old doctors, in some particulars of practice, follow methods which we know for certain to be sound and valuable, but which are neither generally taught, if at all, in books or schools, nor generally followed, nor even known of, by the profession at large. Some of these are borrowed from the wayside, and some are the suggestions of original wit. However derived, to go to our graves without putting them on record is to leave important truths to perish with us, and thus somewhat fail in duty to the generations.

In the little examples of my own conceit in this regard which follow, I shall follow no order of specification, but shall present the several topics as they chance to occur to my mind. Two or three of them I have written about before in the pages of one medical journal or another, but none of them shall be discoursed upon here at such length as to be tiresome, I trust, even for the reader to whom they may not be new.

Treatment of Varicocele.—Books and teachers of surgery constantly or customarily warn us not to mistake a varicocele for a hernia, and aggravate it by the employment of a truss. Now, the fact is that the best of all treatment for this wearing and wearying affection is a weakish truss. It has never failed in my hands, and I have used it scores of times, not only entirely or greatly to relieve the sufferer, but, by continued application, to effect a permanent cure, save in very aggravated cases. The theory of its operation is that, pressing upon the spermatic veins, the pad takes the place of the deficient valves, supporting the superincumbent column of blood which their defection has let weigh wearingly down upon the sensitive parts below. This particular of practice is the more important because the ailment is one that makes a man " feel bad all over," and argues to the mind of the patient, and not seldom of his surgeon, a variety of diseases that have no existence. When the bars of honor in our profession are still farther let down, and the " go-as-you-please " principle becomes our law, I propose to advertise a list of the cases of Bright's disease, heart disease, dyspepsia, hypochondriasis—in fact, almost everything but retroflexion of the womb and fissure of its os—that I have cured by the gentle pressure of a truss on the spermatic veins where they pass over the pubic bone. I was my own first case.

Powdered Rhubarb in Certain Ulcerations.—A good many years ago I was requested by a very capable neighboring practitioner to assist him in the ablation of a woman's big-toe nails. I found them imbedded in villainous-looking ulcerations, which had resisted long and various treatment, and, by their torments, had brought the sufferer to consent even to mutilation. I took the doctor aside and told him that rhubarb sprinkled thick in the sores twice a day would cure them in two weeks. And it did. Except when a part of a deformed nail is plunged like a horn in among the granulations and must first be cut away, this treatment of ulcers of the nails is all-sufficient. There are many other superficial ulcerations of the indolent-irritable sort, such as those of stumps, over varicose veins, and so on, in which this remedy is more effective than any other I have ever used or seen used. But it may be that iodoform deserves to supplant it. I learned it of my father, in whose mother-wit I believe it originated.

Chlorate of Potash a Specific in Tinea Tarsi and Porrigo Favosa.—I once had a bad case of tinea tarsi in a little girl in whom I was greatly interested. In spite of the treatment recommended in books in all its variety, the morbid condition of the Meibomian glands persisted in pouring out their sticky exudation, and the continued loss of the eye-lashes threatened seriously to disfigure the young beauty. Considering its efficacy when internally exhibited as an alterative in certain affections of the mucous membranes, particularly of the mouth and throat, I gave the patient full doses of this medicine—about a drachm per diem. It worked like a charm. Repeatedly the disease returned, as is its wont, and was as often and as readily subdued, and now the patient's eyelashes—she is since grown to womanhood—are like the drooping and seductive sprays of the weeping willow. I have constantly used this medicine since in that complaint, and have never been disappointed. Only in addition, the sticky oozing got rid of, red precipitate ointment may be used to be rubbed on the edges of the eyelids night and morning.

Not long after a lad was brought to me whose scalp was thickly bossed with huge stinking, porriginous scabs. Reasoning from what I saw in the last-mentioned case, I used the same remedy to stay the morbid secretion in this, and with like good effect. The crusty hummocks disappeared, as a syphilitic node sometimes will under the use of the iodide of potash, only far more rapidly. He who tries this remedy in this disease in full doses will not turn again to the scalp-shaving, poulticing, etc., which are the customary practice.

Iodine in Acute Lichen and Urticaria.—Failing by various other medicines to benefit a patient who was subject to frequent attacks of acute lichen with most intolerable itching, I gave him the compound tincture of iodine. It proved a speedy cure, as it constantly has in other cases since. The same is true with urticaria, a resembling and probably allied affection. In prurigo and the like itchments of the skin, it shows no such virtue. I remember that my wandering mind took the hint of this treatment from the reputed efficacy of this medicine in snake bites, which hardly cause a more rapid serous engorgement than we sometimes see in urticaria.

The same is the best treatment I know of in acne simplex—pest of youthful comeliness—when aided by a calomel ointment. But it is not masterful.

In *Erythema Nodosum*, a rare complaint, but well worthy of consideration, on account of its extreme painfulness sometimes, I have learned to throw over "baths, mild aperients, the abstraction of a small quantity of blood" (Bulkley), and the like stereotyped treatment, having found it readily to yield to the internal administration of the muriated tincture of iron in full doses.

Opium in Bronchocele.—Noticing the great efficacy of opium as an adjuvant to iodide of potash in the treatment of bronchocele with exophthalmos, I thought to try it in the uncomplicated form of that disease, and have found it of such value that I never treat its acute progressive or formative stage without the help of that great medicine, giving perhaps one grain a day.

Liquor ferri subsulphatis in Diphtheria.—While struggling in vain, now above twenty years ago, against the great fatality of this disease, as much a stranger to our observation at that time as the plague, I accidentally learned that Dr. Medina Preston, of Sangerfield, Oneida County, N. Y., where the complaint was also then epidemic, was having very great success in treating it by the local application of Monsel's salt. This medicament was as much unknown to me by that name or for any such use as the disease itself; I procured some of it, and, instructed by Dr. Preston in the method of its use, put it on trial. Since that time I have used nothing else as a local application, and have come to consider it not only as almost sovereign, when timely and suitably applied, but as, in fact, the only thing I know of that has any certain efficacy, topical or constitutional, in the treatment of that complaint. Diluted with water to one half strength, it is to be well painted twice a day over the diphtheritic patch and the surrounding mucous membrane with a camel's-hair brush, or fine, soft swab. You must get a full, quiet, and continued exposure of the parts, so as to do a good job; to do which the patient, if a child, must be firmly held. To daub the medicine somewhere into the back part of the mouth or down the gullet will by no means answer. This salt is in no way a caustic, nor any disinfectant, nor even, so far as I know, a poison to bacilli or any other such bugbears. But it is a mighty astringent, and seems to operate in the silly way of puckering the life out of the diphtheritic deposit, and sucking or squeezing the bad juices out of the living parts adjacent. Not but that the patch or patches of false membrane are apt, notwithstanding, to reappear even again and again, and not seldom with enlarged area, but always with less density and diminished rankness of look. Unfortunately, there seems to be no safe way of effectually applying this remedy within the larynx, so that it is of no use when the disease has invaded that part. Neither dare I claim it to be a specific, but only that it is a very good thing.

Phlyctenular Corneitis has the poison of fever and ague at the bottom, the vesicles on the cornea being identical with the eczema, or "cold-sore," which we so often see on or near the lip in evident intermittents. Accordingly, as many outside of the fraternity of oculists have discovered, though seemingly few within, quinine is the grand remedy, the more effective the earlier employed. The attending photophobia is charmingly controlled by wiping the moistened outside surface of the upper eyelid with a stick of the nitrate of silver till a good smarting is produced.

Epistaxis not dependent on organic disease wants a dose or two of blue-pill, or other mild and moderate mercurial.

Nocturnal Spermatorrhœa and Incontinence of Urine commonly get the most help that I have been able to give from a small dose of opium at night, or the like sedative influence of a full dose of ergot.

A Fly Blister more often does good, laid in front of the duodenum, than all the other remedies that I have tried in common attacks of jaundice—I mean those that do not depend on organic disease anywhere. In these cases a tenderness will almost always be discovered over the region mentioned.

Capsicum in plentiful doses, say a drachm or so, has a wonderful control over delirium tremens, pure and simple, in the beginning. Waiting longer, we may as well wait for Nature's own restoration of the over-stimulated sensibility. But most cases of so-called delirium tremens are immediately connected with disorder or distress of some organ or function, and only mediately with strong drink, though strong drink was most likely the original promoter of the whole.

The persistent and distressing giddiness of which now and then a patient otherwise apparently well complains, is successfully treated by the

Compound Tincture of Bark. I do not here mean the form of this complaint that suddenly knocks a man down, and keeps him for a time disabled. I know no good prescription for this but patience, which after a while will always justify the prescriber. The *rationale* of both of these forms of vertigo is still a mystery.

Phlegmasia Dolens, now recognized as a simple phlebitis, is effectually controlled and speedily cured by opium, conjoined with a little calomel or other mercurial, which makes superfluous the fomentations, bandaging, blisters, etc., that are commonly resorted to. It should be given to the point of making the patient quite comfortable. This was taught me by Dr. William O'Gorman, now of Newark, N. J.

When a mother's milk is to be dried up, nothing whatever is needed for her comfort or her safety but to leave nature to herself, and this whether with the recently parturient or after prolonged lactation. This method was used by the late Dr. Hawley, of Hartford, Conn. It is also safely practiced by the lower tribes of animals, from which we may learn much, if we will.

Infants should never be fed from a bottle, but always from a spoon or cup. This is the only way to keep them from being over-fed, which, with the refusal to them of a free supply of water that idiots still practice, kills three-fourths of the hand-fed children that die. Always water should be offered before milk is given, otherwise, to quench thirst, and not from hunger, they will drink more of the latter than they can digest, and a bellyful of trouble will ensue.

Milk porridge, well cooked, is a better general diet for the sick than either raw milk—now so much in fashion—or any meat broths. The previous coagulation of the casein lightens the work of the stomach.

The hypodermic injection of morphine has the same control over infantile convulsions that it exercises over eclampsia. Also will it generally prevent an epileptic paroxysm, whenever the near approach of one can be discovered.

The Treatment of Diphtheria by the Application of Blisters.

Dr. E. M. Reid thus writes in the *Maryland Med. Jour.*, June 14, 1884: In consequence of the recent publication in several of the medical journals throughout the country, of the successful treatment of diphtheria by the application of blisters, I have concluded to give for publication a paper which I read before the Medical and Surgical Society of Baltimore, nearly four years ago, and also before the Academy of Medicine, April 1, 1884, in which were given my views of diphtheria, with my own experience in the treatment of it by blistering.

Diphtheria is a constitutional disease, resulting from a poison which has found its way into the blood, producing certain changes and symptoms, and frequently manifesting itself by an exudation upon the mucous membranes of the air passages. That it is a constitutional disease I think the majority will agree. The fact that persons who have been exposed to the poison, and upon whom it has commenced its work, generally suffer from indisposition, depression, giddiness, headache, loss of appetite, fever, and, in some instances, vomiting, diarrhœa and convulsions, for a time varying from six or eight hours, to as many days, before any exudation appears, seems to me sufficient to demonstrate that it is a constitutional disease, resulting from some poison which has found its way into the blood.

Now comes the tug of war. What is that poison? I presume there is nothing that would delight the world more than for some one to determine positively the real nature of malarial and diphtheritic poisons. How is this to be accomplished? By thought and investigation, not by one but by many; therefore, if I should venture an opinion, at least on the operation of the poison, you will know that it is for the purpose of getting an expression from the many, so that if the truth has not been reached, it may be as speedily as possible.

Austin Flint, in his Practice of Medicine, under the head of causation, boldly asks the question: is the special cause a contagious virus or an infectious miasm? He then treats it as a question of communicability, leaves this *sub judice*, and then tells you that the special cause seems to require auxiliary causes, at present unknown, which are peculiar to certain localities. Many others entirely evade the expression of an opinion of the nature of the poison. Now let us for a moment consider the idea first advanced in 1858, by Prof. Laycock, that the poison of diphtheria is of a parasitic origin, his view receiving the support of Iodin, and which was sufficient to attract the attention of some of the ablest minds of the world, among whom was Oertel, who maintains with great force that certain definite forms of vegetable life, especially *spherical bacteria*, and the smallest forms of *bacterium termo*, are invariably associated with the diphtheritic process, and that certain patches which appear on the mucous membrane at the very commencement of the disease contain growths of micrococci, always to be found in diphtheritic membrane, and also in the blood. And now I will here quote verbatim from Morell Mackenzie, page 112 (Wood's Library), Diseases of Air Passages: "According to Oertel and some other experimentalists, after the inoculation of the different tissues of animals with diphtheritic exudation, it has been found that the micrococci force their way among the cellular elements, crowd into the blood and lymph vessels, which they render impermeable, infiltrate the muscles, and lead to their degeneration, and even reach the kidney, where they excite the inflammation which is so common a complication of diphtheria. Ebert has gone so far as to declare that without micrococci there can be no diphtheria; while in Italy, Giacchi believes that a parasite is as necessary in the pathogenis of the disease as the oidium vitus is in the production of disease of the grape. Letzerich has found another fungus—zygodesmus fuscus—which he believes is the essential cause of the disease.

The conclusions of Oertel and Letzerich have, however, been directly controverted by Senator, who has found the leptothrix buccalis in diphtheria, and who considers the minute round bodies described by Oertel (as the spherical bacteria), to be the spores of the leptothrix. According to Senator, the same fungi are found in diphtheria as in ulcerative, aphthous, and mercurial stomatitis. The importance of the presence of the fungi in dipththeritic deposits is controverted by Dr. Beale, whose authority as a microscopist must carry great weight in this country. This observer maintains that vegetable germs are present in every part of the body of man, and the higher animals, probably from the earliest age, in all stages of health. Millions of vegetable germs are always present on the dorsum of the tongue and in the alimentary canal. Dr. Beale further states that active bacteria introduced among the living matter of healthy tissues will die, although the most minute germs present which escape death may remain imbedded in the tissue in a perfectly quiescent state. He thinks also that there are very few morbid conditions that are unquestionably solely due to the multiplication and growth of vegetable fungi. From this array of assertions and contradictions I do not think it would be safe to accept any one theory as a whole. That it is an infectious miasm I am inclined to believe, but whether a vegetable parasite constitutes an active element in the composition of the miasm I am unable to decide. Oertel, who handles the subject with so much confidence, says that according to certain experiments diphtheria fixes itself at the point of inoculation—the centre of infection, if we may so call the part first attacked—and radiates from that place throughout the whole body. Whenever the diphtheritic infecting agent finds a foothold upon the body, it always excites a local affection in the place where it attaches itself. If this were so, then you would have all the local manifestations before those symptoms peculiar to constitutional disease. Such is not the case, for there is unmistakable evidence of blood-poison long before there are any local pathological changes. Further, says Oertel, if it be true that diphtheria is a general infectious disease, which secondarily makes its first local appearance upon the mucous membrane of the throat and air passages, just as other infectious diseases produce their chief pathological changes always in certain organs, so when diphtheria is induced in an animal by the introduction of diphtheritic poison, must the disease of necessity always localize itself secondarily upon the mucous membranes of the throat, larynx and the air tubes. He here assumes erroneous premises, and reasons therefrom. It doesn't follow that because diphtheria is the outgrowth of a certain poison operating in the blood, that there must be a local exudation in the throat, larynx or air passages at all.

Prof. L. McLane Tiffany, of the University of Maryland, reports the following case: Negro, age seven, lateral operation, with staff and knife, for stone in the bladder, November 25, 1878. Wound dressed with carbolized oil; temperature, November 27th, 28th and December 1st, 99°; on the 2d, 103°, pulse 160; on the 3d, a well-marked diphtheritic exudation made its appearance on the lip of the wound toward the anus, and ultimately covered the entire wound. On the 6th and 7th, constitutional symptoms abated; no throat symptoms at all; wound healed slowly, taking several weeks more than the usual time. I have it from excellent authority that there was at the same time, in the same building, a case of incised cervix uteri, from which was removed a diphtheritic membrane. In this case there were positive symptoms of blood-poisoning. From whence did this poison come? And how did it reach these wounds? The history shows that there were other cases of diphtheria in the building, but not in the wards where these cases developed. I can come to but one conclusion, and that is, that the poison came from the other wards, through the medium of the atmosphere, and found its way into the patient's blood by inhalation and absorption by the mucous membranes of the air passages. Now, how far this poison may pervade the entire system it is difficult to say, but it does seem that one of its principal actions is upon the blood vessels, followed by liberation in the blood of fibrinous elements. The presence of this product of the poison in the blood, as foreign matter, explains the numerous extravasations of blood into the tissues of the body. For the product must be, more or less, at the expense of the coats of the vessels, with a consequent weakening and proportionate inability to retain their contents; and these extravasations also explain the more serious forms of paralysis resulting from pressure upon certain nervous centres. Again, the fibrinous product explains the greater or less emboli and thrombi, which, in turn, may produce, by pressure along the course of the nerves, the lesser forms of paralysis; and, by obstructing the kidneys and other organs, lead to those pathological changes resulting from diphtheria. Who can doubt that there is a *vis eliminans naturæ* as well as a *vis medicatrix naturæ?* Now, as in the case of other poisons, the system tries to eliminate this and its product by an exudation at those points most favoring the same, either by virtue of their anatomico-physiological condition, or an irritated and inflamed structure, arising from various causes, such as sudden changes of temperature or incidental lesions. That it may be invited to certain points by vesicants I have had abundant proof in my general practice, but more especially in the families of Messrs. William M. Busey, of Baltimore, and Oliver M. Warfield, of Hampden. In the family of the first-named gentleman I was called in consultation in the cases of two of his children, both of whom were suffering from diphtheria, and were in articulo mortis, and speedily escaped the further tortures of the M. D.'s. The next one attacked was Mrs. B., upon whose breast I ordered a large blister to be placed at the first appearance of the exudation upon the tonsils—this to be followed by poultices as hot as she could bear them. It was when the exudation came upon the vesicated surface that she began to experience relief from the throat symptoms. The next who came down with the disease were two more of the children, one of whom was, however, much worse than the other, her tonsils and fauces being well covered by the membranous formation. On the breasts of these children were also applied blisters, followed by poultices, with similar results as in the first case, except in one, who, I believed, judging from the appearance of the throat, was sufficiently well to justify me in healing the vesicated surface upon the breast, when there again developed constitutional symptoms, with exudation upon the tonsils and fauces. Another blister was applied, when the exudation again manifested itself upon the blistered surface, with corresponding decrease in the throat. In the family of the second gentleman, Mr. W., there were five children who suffered with this disease, and upon whose breasts blisters were applied with the same favorable results as in the former cases. It is unnecessary to cite other cases where the exudation on abraded surfaces at some point remote from the throat afforded the greatest relief by diverting therefrom the exudation, and inviting it to those parts where it may reside with less danger to the life of the patient. This should be borne in mind that the blister should be applied as early as possible, and followed by poultices as hot as the patient can bear them. In regard to the internal treatment, I know of none better than that which you would employ in an ordinary case of intermittent fever. At the beginning, large doses of mercury, followed by an aperient, and after this iron, quinine, etc.

Renal Syphilis.

The *Journal Cutaneous and Venereal Diseases* for May, 1884, quoting from a foreign exchange says:

1. Syphilis, in any of its stages, may affect the kidneys; the same is true of hereditary syphilis in infantile or adult life.

2. Certain renal complications are *precocious*, others *late*. The first, only studied within the last few years, manifest themselves in the first months after infection with all the characteristics of the nephritis of the infectious fevers; when the debut of the chancre dates back several months, the clinical history of the renal affection is similar to cases of glomerulo-nephritis, which are observed in scarlatina for example.

3. Syphilitic nephritides occurring in the secondary stage are always grave accidents; nevertheless they are curable, not only in the acquired syphilis of adults, but also in the hereditary syphilis of childhood. Their gravity appears to bear a certain relation to the age of the syphilis and the time which the patients have been subjected to specific treatment.

4. Albuminuria being the principal symptom in the examination of these renal accidents, we understand how specific nephritis may pass from view before the other secondary accidents of syphilis.

5. When œdema appears and is sufficiently marked to attract the attention of

the patient and physician, another cause is generally assigned to it, so that syphilis is readily eliminated from the diagnosis.

6. These albuminuric patients being improved under the influence of specific treatment, and taking no further care of themselves after the secondary accidents have disappeared, the renal lesion may slowly pursue its course, and when, later, the patient comes under the care of the physician, it is more than probable that his suspicions will be directed to another cause than syphilis, especially since it so often happens that the patient declines to confess to a disease which he has every interest in concealing. It is necessary, then, when a patient comes under the physician's care with all the symptoms of an acute or chronic nephritis and the etiology generally adopted proves doubtful, to think of syphilis and institute a specific treatment. If the patient bears any traces of syphilis (either upon the organs appreciable to view, or upon the viscera, nervous centres, liver, etc.) these accidents only confirm the diagnosis of a syphilitic renal lesion.

7. Precocious syphilitic albuminuria is generally persistent and of quite long duration. There remains a question of extreme importance to be resolved: what will be the outcome, in a time more or less remote, of the secondary syphilitic nephritides considered as cured? The presumption is probable that a certain number of cases of Bright's disease may be the recurrence or latent termination of this primary disease of the kidneys (precocious syphilitic nephritis).

8. Specific treatment gives the same results as in the other precocious accidents of syphilis. Milk diet should be regarded as a simple adjuvant, but not recognized as a necessity.

9. Renal complications occurring in an advanced stage of syphilis (tertiary and quarternary accidents) exist, presenting sometimes the character of acute or chronic Bright's disease, sometimes the characters of amyloid degeneration: in the last case, contrary to the opinion generally held, we think with Wagner that the amyloid kidney is a consequence of syphilis, and not of a concomitant suppuration or of a mercurial or venereal cachexia; for cases occur in which there is no suppuration, and the patients, far from being cachectic, are on the contrary quite vigorous.

10. These specific renal alterations are more grave than those which appear in the first years of syphilis. Nevertheless they may be benefited by specific treatment, the sole condition being that the renal lesion be not too far advanced; for, as in the case of the nerve centres, we cannot rebuild the tissues.

11. Gumma of the kidneys, although quite rare, exist; but no pathognomonic symptoms reveals their presence during the life of the patient, it is probable that anti-syphilitic treatment would have the same results as in gumma of other viscera.

History of a Case of Peri-hepatic Abscess.

Dr. Edward T. Bruen presented the following case to the College of Physicians of Philadelphia:

The accompanying specimen exhibits an abscess which has occurred between the diaphragm and the liver. The abscess contained nearly a pint of laudable pus. The superior wall of the abscess was the diaphragm, and the inferior the peri-hepatic capsule; the hepatic substance was not involved; indeed, the liver was normal. There were evidences of catarrhal inflammation in the colon, and one or two nearly cicatrized ulcers. The only other lesion in the body was found in the right pleural cavity, the lower portion of which was obliterated by inflammatory adhesions.

The clinical diagnosis presented some interesting features :

The patient, a young man aged twenty-eight, was admitted to the Philadelphia Hospital, November 30, 1883. His previous history indicated that he had suffered from an attack of dysenteric diarrhœa four weeks before his admission, although he had convalesced from this attack. He was evidently much emaciated. The temperature until December 8th ranged from 100° to 102°; from December 14th, from 99° to 101°, after which it never rose above 99.4° in the evening, and was always 98° in the morning; this continued until the fatal termination of the case on the 20th instant. The pulse was usually above 100. There was occasional sweating; no chills. Extreme tenderness was felt over the hepatic region, associated with pain during the first ten days; the hepatic dullness extending four inches in the nipple line, and about five inches in the axillary region. Physical examination of the chest upon the right side revealed the evidences of a dry pleurisy; there was some cough, which was dry and hard, but not very annoying. Appetite and digestion were fairly good. Urine normal.

The diagnosis of hepatic abscess was made during the first week, chiefly because the symptoms of hepatic lesion, already detailed, were antedated by dysenteric diarrhœa. The pleural lesion was regarded as a secondary process engendered by hepatic disease. On December 10th all symptoms of pain and tenderness had vanished; the patient's strength, appetite and general condition markedly improved; the temperature had fallen to 99°, so that the diagnosis was revised to that of peri-hepatitis. From December 10th the improvement continued until the 20th, when, after an attack of vomiting, the patient suddenly died.

The autopsy appeared to prove that the inflammation which resulted in the formation of the abscess was primary in the pleura, and the secondary irritation developed the local peritoneal process.

The symptoms of abscess in the hepatic substance are frequently latent. I recall one instance of a patient, admitted October 9, 1877, who walked to the hospital and remained under treatment until the 15th, suffering from apparent remittent fever. The day of his death he rose, in the absence of the nurse, and walked down stairs to smoke a pipe; that afternoon he had a hemorrhage from the bowels and died. The temperature of the patient was between 99° and 101°, and the clinical diagnosis was remittent fever, or typhoid of the variety called ambulatorius. The autopsy revealed an abscess about the size of a fœtal head, occupying the convexity of the right lobe of the liver.

In the case I have reported this evening, the subsidence of pain and tenderness, and the temporary improvement of the patient, certainly misled me. Under similar circumstances, I should certainly introduce an aspirator, as I was inclined to do in the beginning of this case, because I am satisfied that the healthy liver can be punctured by a fine needle without damage, whereas either a hepatic or peri-hepatic abscess may at any time prove fatal by rupture.

Finally, if my explanation of the etiology of this abscess is correct, the case is interesting, as showing the relation of pleurisy to serious peri-hepapatitis.

Idiopathic Peritonitis.

The *Med. News*, June 7, 1884, says: The latest candidate for a place among the infectious diseases, with a microparasite for its cause, is idiopathic suppurative peritonitis. In a recent paper in the *Deutsche med. Wochenschrift*, for April 24, E. **Leyden**, after collating a number of facts from German, French, English, and American literature to prove the existence of idiopathic peritonitis, which has sometimes been questioned—asserts also its parasitic origin. He also reports three cases from his own experience, of which two died and one recovered; but he does not claim to have discovered a distinct parasite, with definite anatomical characters, as he has noted several apparently distinct forms. Idiopathic suppurative pleurisy, he believes, has a similar origin.

In the freshly removed purulent exudate of malignant puerperal peritonitis, he also found numerous cocci of invariably the same shape and color; and as the puerperal cases were, throughout their entire course, more malignant and accompanied by more profound general symptoms, so the micrococci were found to be much more intensely active, infiltrating the muscular substance of the diaphragm, and extending even to its pleural surface, where, too, they had excited inflammation. All of these purulent peritoneal exudates were odorless, and could not be regarded as septic, while the general symptoms to which they gave rise could not be regarded as those of septicæmia. The putrid exudates, of which Leyden also investigated several, distinguished themselves essentially from the simple in that no pure cultures of the microparasite could be obtained from them; but mixed forms, in which especially occurred, along with diplococci bacilli, which partly arranged themselves in long threads and chains. The same was true of putrid pleural exudates.

From such cases, Leyden also eliminates rheumatic peritonitis, including certain instances of acute peritonitis accompanying acute articular rheumatism, in which the exudate is not purulent, but serous.

These causative agents of idiopathic peritonitis enter the system as in other infectious diseases. Such causes as indigestion, constipation, and injury, may furnish the conditions favorable to the germs of the disease establishing themselves in the peritoneum. In the female, menstruation especially may coöperate with such causes. During this condition there is a breach of continuity in the uterine mucous membrane, attended with a prolonged hemorrhage, so that circumstances favorable to the fixation of the parasite are presented. A further favorable condition is the communication between the uterus, through the Fallopian tube, and the abdominal cavity.

In the matter of treatment of idiopathic peritonitis, Leyden suggests a measure which, although undoubtedly not novel, has nevertheless been so seldom practised, that notwithstanding its apparently unpromising character, it may reasonably claim further consideration from physicians and surgeons, especially in the light of the recent enlargement of the field of abdominal surgery. It is that of evacuation of the purulent contents of the abdomen by paracentesis. He supports this suggestion by his experience with a case in which a splenic abscess, bursting into the abdominal cavity, produced a fatal peritonitis, which, he thinks, might have been averted had the abscess been evacuated.

VI. OBSTETRICS, DISEASES OF WOMEN AND CHILDREN.

Lead Paralysis in Children.

Dr. **Henry D. Chapin** thus writes in the *Med. Record*, May 18, 1884:

The rarity of lead paralysis in early life is shown by the statistics of Tanquerel des Planches, who found among one hundred and two cases only two below the age of twenty years. I have had under observation for the past year two very interesting cases of lead paralysis, occurring in children who came to Professor J. Lewis Smith's clinic. The histories were begun in the latter part of May, 1883.

Robert W——, aged five years, and Thomas W——, aged seven years, had always been healthy and had never had any disease except pertussis. The first thing wrong their mother noticed was that just before New-Year's day, 1883, Thomas began to complain of stomach-ache. This was not very severe at first, and on the following day Robert began to suffer from similar pain. This grew more severe in several days, and lasted about four weeks. The pain was not continuous; at times it would grow worse, but it was never severe enough to double them up. Occasionally they would wake up at night crying, and asking for water. They now began to complain of pains and soreness in the legs, and were averse to walking.

One morning in the latter part of January, their mother found they could scarcely get out of bed, and when put upon the floor they could with difficulty sustain the weight of the body. This soon increased to almost complete paralysis. After a few days they began to get better, and could soon walk with difficulty; but the improvement did not increase beyond a certain point, as their gait continued uncertain. They remained fairly well for a month or more, when they were again seized with abdominal pains and an additional loss of power in the lower extremities. They slowly improved from this attack, but their legs were left in the same condition of partial paralysis of the extensor muscles. About the middle of May they were seized with a third exacerbation of symptoms, which were severer than the previous ones. The paralysis of the lower limbs was more complete than usual, and the mother noticed that the older boy could not grasp objects well.

It was at this time that the cases came to the clinic. Thomas had a blue line at the junction of the incisors with the gums in the lower jaw. He was unable to raise his hands, and could with difficulty extend the second and third phalanges of his left hand, and was utterly unable to extend these phalanges in the right hand. The supinators were not affected. He could walk with difficulty, and his mother said she had hard work to get his shoes and stockings on, as his toes bent under so. His eyes were normal, and he was passing water freely. Robert, the younger boy, suffered from a milder grade of symptoms. He had no blue line on the gums, and his upper extremities were not affected.

On examining the premises in which these children lived, I found their father was a painter, and that for two years some remains of paint had been kept in a closet immediately adjoining the sleeping-room of the children. There was some white lead and turpentine, and a few bottles with coloring matter. At Christmas the father painted the rooms in which the children spent most of the day with two coats of white paint, after which they were stained and grained. About a week after this the first symptoms of lead-poisoning manifested themselves.

After keeping the children under observation for a few weeks, during which time they slowly improved, I lost sight of them entirely. During the early part of last March, happening to be in the part of town where they lived, I thought of them, and stopped in to see them. To my surprise, they had not recovered, and were in a much worse condition than when I had seen them nearly a year before. They were utterly unable to walk, and complaining of pains all through the body. When I lifted them to see if standing were possible, they cried out with pain. Both had well-marked wrist-drop. Their breath was extremely offensive, almost fetid, and Robert's gums were soft, spongy, and ulcerated. The front teeth in his lower jaw were very loose, and I lifted out the middle incisors, as they were almost dropping from their sockets. Thomas, the older boy, had his teeth still firm, although his gums were in an offensive condition. He was complaining of headache, and had attacks of vomiting. The completeness of their paralysis was shown by the fact that at this time the muscles did not respond to the faradic or the interrupted galvanic current. Sensation was not impaired. I learned from the mother that since I had seen the children, they had suffered from several such attacks, each one getting worse. They would get fairly well, and begin to walk about a little, when they would have a relapse, and completely lose power in the lower extremities. They also had wrist-drop, the younger boy having contracted this at the last attack. These relapses always began with pains in the stomach and limbs, following which there would be an exacerbation of the paralysis, especially in the lower extremities. After a few weeks, they would be able to leave the bed and be about until the next attack. They have now had in all about seven such seizures, the last one having been the longest and most severe. The lead was removed from the closet a year ago, and after a careful inspection of the premises, I could find no cause for these repeated attacks.

I had them removed to the hospital, where they are improving, having recovered the use of the wrists, but still walking with some difficulty from a partial paralysis of the muscles on the anterior part of the leg, which give a reaction of degeneration by electricity. Specimens of their urine, examined under the direction of Dr. Fowler, show traces of lead.

As seen at the present time, with somewhat atrophied lower extremities, they bear a close resemblance to the common spinal paralysis of infancy and childhood. In fact, I am not sure but that lead may sometimes form a factor in paralyses of children that are called by other names. An interesting case that recently came under my observation may be cited in this connection. Francis S——, aged two years and three months, a healthy and well-nourished child, was brought to me with a cellulitis of the thumb and adjacent part of his right hand, due to the irritation of a splinter. I made a free incision and ordered a poultice. The mother did not appear with the child for some weeks, when she brought him to me with his lower extremities paralyzed. I found that after continuing the poultice for a few days, she had called in another physician, who had ordered a solution of acetate of lead (ʒij.–Oj.) to be constantly applied to the raw surface. She had faithfully followed his instructions for a week, using wet cloths, and at times keeping the hand dipped in the solution, when the child began to lose power in his legs. The paralysis increased gradually until in three or four days it was complete. When I saw the boy, a week or so after this, improvement had begun to take place, but he was still unable to stand. I could not tell whether he had pains in his legs, as he was very fretful on every occasion I saw him, and cried most of the time. He continued slowly to improve for the next month or so, and is now quite well.

The connection of lead with this case may have been simply a strange coincidence, but I have been interested in seeing that Seeligmüller, in Gerhard's "Handbuch der Kinderkrankheiten," quotes Duchenne fils as having cited a case in which a child of three years got spinal paralysis by drinking water contaminated by lead. In fact, I think it is very reasonable to suppose that some of the cases of spinal paralysis in children are caused by lead. We know that at this period of life the spinal centres are extremely active and susceptible, and there are many ways in which children may be exposed to the toxic influences of lead. It is also known that lead is often prone to attack the spinal cord. In an article entitled "A Contribution to the Pathological Anatomy of Lead Paralysis," Dr. W. R. Birdsall has cited an instance in which an autopsy was made in a case of lead paralysis, and a mild grade of subacute myelitis was found to exist. The same writer has collected records of fourteen cases in which autopsies were made and the spinal cord examined, and in six of them changes were found to a greater or less degree, and changes similar in character, that is, a subacute myelitis in different regions. Again, he states that because changes have sometimes been found in the muscles and muscular nerve-branches before they could be detected in the cord, it is not safe to consider this as a conclusive argument against the theory of a central origin of the changes.

Thus, interference with the nutrition of centrifugal nerves and organs is more apt to be caused by impairment of function in the spinal centres than the former are to react upon the latter. There are also clinical considerations tending to show that lead paralysis is frequently, at at any rate, of spinal origin. Thus, Ross calls attention to the fact that the muscles are affected in groups, according as they are associated in their actions, and not according to the distribution of a particular nerve, such as the musculo-spiral. The mode of invasion of lead paralysis also corresponds to that which occurs in infantile paralysis and progressive muscular atrophy, both of them spinal diseases, and differs from that of paralysis of peripheral origin. In the "Transactions of the American Neurological Association for 1882," Dr. Seguin is mentioned as reporting a case in which the symptoms of lead paralysis were absolutely identical with those of poliomyelitis, and this was but one of a number of cases he had seen in which it was impossible for any neurologist to make a diagnosis between the two diseases.

The reaction in lead paralysis, whether limited or general, is the same as that of poliomyelitis, and the symptoms even of limited lead paralysis are often identical with atrophic paralysis with pain. He also stated that he was unwilling to give up the idea that lead paralysis, whether localized or disseminated, is a form of poliomyelitis. It is at any rate certain that the irritative action of lead on the ganglion cells of the spinal cord may in children give the symptoms of the ordinary spinal paralysis, and that it must not be overlooked as a possible cause of this affection. Bearing this in mind will have a very practical influence in treatment, as, when lead is discovered, the cause can be removed and eliminative treatment be begun before degeneration has gone too far.

Extreme Anæsthesia for Obstetric Operations.

Dr. J. McF. Gaston thus writes in the *Atlanta Med. and Surgical Journal*, for March, 1884:

The inhalation of chloroform in labor is ordinarily attended with insensibility to pain, without arresting the uterine contractions, and is found advantageous in relaxing the external soft parts, so as to facilitate the delivery of the child. But in the management of some complicated cases of labor, the overpowering effect of the continued use of inhalations of chloroform has reached the point of interrupting completely the contractions of the womb, and left its walls in such a state of relaxation as to be attended with a flaccidity in grasping the outline of the womb through the abdominal walls. Such a result was observed for the first time a few years ago, and the general condition of the patient did not present any features worthy of special note apart from the profound narcosis. It was a first labor, with an impracticable face presentation, in which she had been kept under the profound influence of chloroform for more than an hour, when, in the course of the efforts with the hand and the lever to correct the position, it was found that the entire head receded from the vulva. A colleague, who was in attendance with me, then verified that all uterine contraction had ceased; and upon pressing upward against the face of the child, the head was readily carried back within the womb. The hand could now be passed freely around the body of the child as it lay in the loose sac of the relaxed womb, and seizing the feet, there was no difficulty whatever in effecting podalic version and delivering the dead child. The chloroform had been suspended immediately upon observing the complete arrest of the contractility of the fibres of the muscular structure of the uterine walls, and before the extraction was effected, a return of energy was noted that coöperated in expelling the head. It was evident that the influence of the anæsthetic had extended beyond the control of the animal or voluntary system of nerves, and had reached in its effect the functions of the organic nervous distribution to the womb. The automatic contraction of the womb, dependent upon the ganglionic supply of nerves, which continues under the moderated impression of chloroform, ceased entirely under a more profound influence of this anæsthetic. This result being accompanied with no serious shock to the recuperative powers of the patient, I was led to reflect that extreme anæsthesia might be available for the relaxation of the womb, not alone in impracticable face presentations, but in all mal-positions of the child, requiring interference on the part of the obstetrician. It is well known to all, who have been called upon to correct shoulder presentations under clonic contractions of the womb, how little benefit is derived from the ordinary mode of administering inhalations of chloroform or ether; and this case goes to show that a more complete narcosis will insure entire relaxation.

A favorable opportunity was offered some months ago for testing this practice in another case of face presentation under the care of two colleagues, who sought my assistance, after exhausting their resources without effect. I explained to them what had resulted in the case referred to above, and suggested that it might avail in the emergency, in which they acquiesced, and coöperated by administering the chloroform very freely, so that the woman was speedily brought under its profound anæsthetic influence, indicated by stertorous breathing. At this stage of its effect, and not previously, it was perceived that the rigid contraction of the uterine walls relaxed, and upon making considerable pressure upon the face of the child that was presenting at the outlet of the inferior strait, the head was dislodged from its impacted position, and carried without further difficulty up through the superior strait into the womb. At this moment there was a gush of blood from the vulva, such as I had never witnessed in a considerable experience, with hemorrhages from the womb; and realizing that there was no time to be lost, the hand was hooked over the occiput so as to bring the chin round against the breast, and by traction the vertex presentation was restored, so as to bring the head at once into the superior strait, thus serving as a tampon. The chloroform was stopped, and cold water dashed over the abdomen to excite the contractility to the uterine fibres; and forceps being applied, the child was, with strong traction by myself, alternated by one of my colleagues, eventually delivered dead. There was no further hemorrhage after the delivery, and the womb contracted regularly.

The hemorrhage encountered was doubtless from the partial detatchment of the placenta, leaving the patulous openings on the inner surface of the womb free when the entire relaxation of the organ occurred.

I have purposely refrained from giving any of the minute details of the unfavorable presentations of the face which are among the most difficult to manage, upon the principle heretofore adopted, so as to draw the special attention of obstetricians to the interruption of the uterine contraction by the extreme influence of the anæsthetic. A case of face presentation that cannot by any means at our command be brought into a position for delivery, may readily be forced back into the cavity of the womb, when it becomes relaxed, and changed to a vertex presentation, or relieved of all embarrassment by turning, and thus in other cases of dystocia.

It is not claimed that a rule can be established upon the limited observation of the result in two cases, but such an effect has not, within my range of reading, been noted previously; and a knowedge of this fact may open the way to important steps in correcting all mal-positions of the child accompanied by clonic uterine contractions.

Upon further experience it may also be discovered that extreme anæsthesia will relax the hour-glass and other irregular contractions of the uterine walls, which the ordinary full inhalations do not reach, as I have verified in manual dilatations of these spasms under the use of chloroform in numerous instances.

Recent reports of the use of nitrite of amyl and bromide of ethyl encourages a trial of them in this class of cases. Fancourt Barnes, of London, has resorted to the nitrite of amyl in spasms of the womb with a satisfactory result, and others in this country have confirmed his observation of its good effect in hour-glass contraction. It is therefore to be inferred that it may relax the uterine contractions in labor.

The bromide of ethyl has also a claim to consideration as an anæsthetic in labor; but while Heckermann, of Berlin, reports favorably upon its general effect in fifty cases, Muller, with an experience of twenty cases, takes serious exceptions to the uniformity of its influence.

Among the cases submitted to the bromide of ethyl, it is stated that in five, during the second stage, the labor pains ceased altogether, and in three they ceased in part, thus favoring the recourse to this agent as a means of relaxation of the uterine contractions. It may be inferred that with the cessation of pain, the uterine contractions are suspended, and if the medicine is increased, such a relaxation may be obtained as to facilitate the correction of mal-positions. "On the average, fifty to sixty grains of the drug were employed. During the narcocosis the pupils dilated and the face became congested. Little effect was produced on the pulse and respiration."

The indications for such an impression upon the contractility of the uterine fibres as to stay their action for a time, which may admit of version in impracticable presentations of all varieties, are most urgent, as the obstetrician encounters the greatest difficulty frequently in his manipulations, owing to the resistance of the walls of the womb. Should a temporary relaxation of the contractions be accomplished uniformly by the extreme anæsthesia of chloroform, or by the influence of the nitrite of amyl, or bromide of ethyl, an important adjuvant will be gained in the correction of mal-positions by the obstetrician.

Incarcerated Uterine Fibroid.

Mr. H. R. Fuller reports this case in the *Brit. Med. Jour.*, May 10, 1884: Mary B., aged 37, a single woman, sewing-mistress in a Welsh village school, was admitted on July 24, 1883. She stated that she had never been pregnant, and had had no serious illness, with the exception of the one mentioned below; the catamenia were regular and natural. She had nursed her mother, a heavy woman, through an illness lasting from September, 1882, to her death in May, 1883. One day in September, 1882, whilst lifting her mother, she felt "something give" in the lower abdomen; she was seized with pricking and shooting pain in the hypogastrium, and was unable to pass urine. She kept her bed a week, the use of the catheter being necessitated several times. In fourteen days, she was able to resume her daily duties.

In June, 1883, she had a similar, but less severe, attack, for which she could assign no cause. In the intervals between the attacks, she felt quite well, followed her usual avocations, and never noticed any lump in the belly.

On July 17th, she came to London on a visit. On July 24th, she was unable to pass urine, and came to the hospital in considerable pain and distress. The catheter showed that the bladder contained only a few ounces of urine Abdominal examination revealed nothing abnormal. Vaginal examination showed that the hymen was intact and dilatable, the cervix uteri drawn forwards against the pubes, and the whole of the pelvic cavity filled by a round, smooth, slightly lobed, very hard, and fixed tumor. The tumor could be more plainly felt from the rectum, and could be slightly elevated on pressure; but, on attempting replacement, which necessitated the use of considerable force, crepitus was felt, and the attempt was abandoned. The uterine sound passed for 4¼ inches, with its concavity backwards.

On July 26th, the rectum and bladder were emptied; and at 1:45 p. m., Barnes' hydrostatic bag (No. 3) was introduced into the rectum, and the patient placed in the knee-chest position. No attempt to distend the bag was made, but the nozzle was connected, by India-rubber tubing, with a column of water about 56 inches in height. At 4:30 p. m., the tumor was found to be distinctly lifted from its original site, and the bag partially distended. At 7:30 p. m., the patient could no longer maintain the knee-chest position, but lay in the ordinary obstetric position; she was restless and irritable, and a quarter of a grain of morphia was injected subcutaneously.

On July 27th, at 1:30 a. m., the tumor could still be reached with the finger. The bag was fully distended; the patient was sick, and again restless. The injection of morphia was repeated. At 4:30 a. m., the tumor could not be felt; the cervix was in the natural position; and a mass occupied the hypogastrium. The bag was emptied, and removed; a little sanious discharge followed, and afterwards much flatus.

On July 28th, Dr. Champneys, on making a rectal examination, found the cavity of the sacrum quite clear. The lower edge of the tumor could just be felt near the right sacro-iliac synchondrosis, and bimanual examination discovered a tumor in the hypogastrium, reaching to the level of the navel, of which the above was the lower border. The patient suffered at first from sickness, and considerable aching pain and soreness about the rectum, and was unable to pass urine or hold her motions; but, on August 1st, she passed urine naturally, and was regaining control over the rectum. By August 4th, this control was complete.

On August 7th, a slough was passed, which proved to be a cast of the mucous membrane of the rectum. Examination showed the sphincter lax, and the rectum slightly dilated; below the lower fold of Houston its surface felt rough, but above this smooth. The abdominal mass was found to have sunk, so that the upper border was two inches below the level of the navel, but there was not any tendency to reproduction of the incarceration. She was discharged on August 10th.

On August 24th, she was seen in the out-patient department for the last time. Rectal examination then discovered, one inch from the anus, a stricture easily admitting the finger; another stricture was felt about one inch higher up. There was no fæcal accumulation above this, and the mucous membrane felt quite smooth. The general health was good.

The patient wrote from Wales on February 7, 1884, that she was in fair health, but suffered from "downward-drawing pain after exertion." She was "still compelled to take opening medicine, and to have the instruments (bougies ?) passed occasionally."

Remarks by Dr. Champneys: This case presents several points of interest. The first consists in the similarity of the history to that sometimes obtained in cases of retroversion of the gravid uterus. In this latter disease, the first symptom is always retention of urine, or its consequence, dribbling of urine; and in some cases, the symptoms follow a jump or fall. In this latter variety, it is probable that the uterus, just too large for the brim of the pelvis, is forced below the promontory, which then imprisons it as a cog; the retroverted uterus again pressing against, or kinking the urethra and lower part of the bladder. In other cases, something prevents the evacuation of the bladder at the proper time, and the patient subsequently finds herself unable to empty it. In these cases, the full bladder probably still further retroverts the already retroverted uterus, and thus prevents its own evacuation, as in the first variety. In both varieties, evacuation of the bladder relieves the more urgent symptoms, and sometimes is sufficient to provide for the elevation of the uterus. In this place, it will be sufficient to say that the first attack probably illustrated the first variety, while the subsequent attacks may have been examples of the second.

With regard to the treatment adopted. The forcible elevation of a fibroid is not without risk; such tumors are often covered with enormous venous sinuses, as large as a finger; an adhesion over one of these might tear it open, and the bleeding would almost certainly prove fatal. Even in abdominal section, such bleedings can sometimes only be checked by the removal of the whole uterus. The great force which in this case was found necessary in applying taxis, caused apprehension, and the gentler and continuous method of hydrostatic pressure was adopted. This has already been used, by means of gravitation, for the dilatation of the cervix uteri. The ordinary hydrostatic bags, introduced by Dr. Barnes, are rather stouter than necessary; and thinner, round balloons would prove better. The rectum was used, partly because leverage is better applied as far posteriorly as possibly, and partly because of the presence of the hymen. If the condition of the rectum gave much trouble in the future, a very simple nick of the cicatricial tissue would probably set matters permanently right.

Corroding Ulcer of the Os Uteri.

Before the Obstetrical Society of London, meeting March 5, 1884, Dr. John Williams read a paper on Corroding Ulcer of the Os Uteri. He referred to the rarity of the disease, to the almost entire absence of descriptions of it in systematic treatises, and to the fact that its existence had been denied by some observers. It had been mistaken for cancer, and *vice versâ.* The histories of these cases, which had been under the author's observation for varying periods of time, one for two years and two for about ten years, were narrated, and the post-mortem appearances, together with the microscopical characters of the ulcer in one instance, were described. The differences between corroding ulcer, both clinical and anatomical, were pointed out, and the views of Sir Charles Clarke, that the disease was distinct from cancer, upheld. The disease begins at the os uteri, and extends along the vagina, involving its walls in a symmetrical manner. Its progress is slow, and two of the author's patients died of other diseases, while the third, who had been under observation for ten years, was still living. It was not necessarily associated with loss of flesh; and the pain and discharges were different from those usually met with in cancer of the uterus, and the edges of the ulcer were not hard and thickened. The mode of progress of the ulcer was in one case by means of reddish raised tubercles, which became ulcerated; in another by slow ulceration without any preceding changes in the tissue about to be invaded except some redness. The mucous surface to the edge of the ulcer appeared perfectly healthy. Microscopic examination showed this last observation to have been accurate; for the ulcer, its base and border, presented no appearance except that of granulation tissue. The case in which the disease presented the characters of lupus is still living. In the second case, which died, and which presented the microscopic appearances mentioned, the ulcer appeared to be the result of a slow gangrene arising from calification of the internal iliac arteries and their branches.

The President expressed his admiration of Dr. Williams' paper, dealing so ably with a rare and interesting disease. He regretted that no autopsy had been allowed in the second case; but, from the results of the autopsy in the third case, the symptoms observed by the writer through a series of years in each case, and the observations of other authors referred to by Dr. Williams, he thought that the disease must now be definitely withdrawn from the list of cancerous or cancroid affections.

Dr. Priestley said that the rarity of the affection was proved by the fact that some gynæcologists in large practice were doubtful if they had ever seen a case, and that its pathology was much disputed. Thus Kiwisch and Scanzoni regarded it as a variety of encephaloid cancer. Courty and West regarded it as a form of epithelioma. He thought he had seen the characteristic forms of the disease more than once. Sir Charles Clarke described the pain as burning, and not gnawing, like that in cancer. He reminded Dr. Matthews Duncan of two cases which he had seen with Dr. Priestley, in which a similar affection of the uterine body was not improbable without affection of the cervix.

Dr. Matthews Duncan was deeply interested, for the disease had been the object of special study for many years to him, and he believed it to be of the nature of lupus. He was not sure that he had ever seen a case identical with those of Dr. Williams as to situation, but he had seen many in the lower vagina and external organs. Lupus of the external organs seemed to produce hypertrophies greater than any produced higher up in the passages. He had also seen the disease in the uterus, and one of the cases referred to by Dr. Priestley had been fully described by Dr. Duncan in vol. xxi. of the Society's Transactions.

Dr. William Duncan thought Dr. William's cases were lupus which had taken on an epitheliomatous nature.

Dr. Chalmers believed that the disease was not so rare as had been thought. He had seen two such cases in the last two years; in one case the patient died within a period specified in the prognosis given.

Dr. Galabin asked Dr. Williams whether he regarded the disease as having any analogy with rodent ulcer of the skin, which was now regarded as a form of rodent cancer.

Dr. Griffith had seen a case which he thought similar. There was little pain, no glandular enlargement; it proved fatal in two or three years by repeated and uncontrollable hæmorrhage. No autopsy was allowed, but the left side of the uterus was felt much thickened.

Dr. Routh had seen two cases of the disease. There was no induration of the surrounding parts, nor fixation of the cervix. The absence of induration made him dissent from the view that it was lupus.

Dr. Aveling said that Dr. Rigby believed that burning pain accompanying this form of ulceration was different from the darting pain of cancer. He asked Dr. Williams how far his observations agreed with this.

Dr. Williams replied that rodent ulcer was epithelioma starting from hair follicles and sweat glands, and corroding ulcer of the cervix could not be such. In one of his cases it appeared to be lupus, for the ring of tubercles with the cicatrix could be nothing else. This patient was still living, therefore no microscopical examination had been made. The third case was, in his opinion, senile gangrene, depending on calcification of the internal iliac arteries and their branches on both sides. He had used the word "malignant" loosely as equivalent to incurable. He had seen one case of ulceration of the inner surface of the body of the uterus. The patient was over sixty years of age, had suffered long from offensive discharge, and was very fat. She died from other causes. At the autopsy the uterus was large, the walls thickened, the cavity large, secreting a quantity of broken-down dark material. Section of the walls showed nothing except the muscular fibres of the uterus rising to the surface, and in them many round cells, but nothing to indicate malignancy. No local treatment had been pursued.

On the Value of Certain Single Symptoms in the Diagnosis of Diseases of Children.

The *London Medical Record*, May 15, 1884, says: In this paper Emeritus Professor Pollitzer contributes (*Jahrbuch für Kinderheilkunde*, Band xxi, Heft 1) from his ripe experience some very valuable hints for the guidance of the less initiated. The "single symptoms" which he enumerates are in some cases pathognomonic, and in others are of great importance for differential diagnosis. The first symptom is a *strongly marked nasal or palatal cry.* This is present in, amongst other complaints, syphilitic ozæna, hypertrophied tonsils, and paralysis of the soft palate; but where these can be excluded, it affords very strong presumption of retropharyngeal abscess. Dr. Pollitzer relates that on one occasion he was examining a child when the nurse passed through the room, bearing another, four months old, in her arms. On hearing it give this nasal cry he stopped the nurse, but the mother affirmed that the baby was quite well. However, Pollitzer introduced his fingers and felt the expected swelling. This was incised, and a large quantity of pus evacuated.

The second symptom is *an excessively prolonged, loud-toned expiration, with normal inspiration and without dyspnœa.* This is an early symptom of chorea major, and may precede all other manifestations of the complaint. In illustration of this, the author mentions that he was once called to see a case of supposed croup; but, on observing this peculiar breathing, he felt no hesitation in diagnosing chorea. The mother had observed this symptom about two hours, and stated that it appeared suddenly, when the child was apparently quite well and asleep. The next day he was informed that this breathing continued for another hour, and then gave place to a singing semi-delirium. Later, the ordinary symptoms of chorea developed themselves.

The third single symptom is that of a *high-thoracic, continued sighing inspiration.* The author regards this as almost pathognomonic of weak heart, and of certain cases of acute fatty heart. The breathing differs from that of croup and other stenoses, in that, while the diaphragm is almost passive, the accessory muscles of inspiration are in vigorous action. The symptom is of especial value, because it is early, and furnishes an indication for treatment long before the other signs—such as cyanosis or pallor of the face, thready pulse, cold extremities, etc.—show themselves.

Another "single symptom" of importance is *the presence of a pause at the end of expiration.* This serves to distinguish between laryngeal catarrh and croup, and, when well marked, absolutely excludes the latter. In examining for it, however, the room should be perfectly still, and the ear should be placed close to the patient's mouth. The author relates how he succeeded in diagnosing laryngeal catarrh from the mere presence of these pauses, in a child who had been ill three days with stenotic breathing, hoarseness, and great somnolence. The laryngoscopist who was called in, confidently expected to find well-marked false membranes; but no such were visible, and the child was well in a few days. Another symptom, of which it is important to understand the significance, is the so-called *respiratio stridula.* It consists of slightly noisy, but otherwise normal inspiration and a loud bleating, interrupted (staccato) expiration; it continues day and night, sleeping and waking, with very rare free intervals of ten minutes or a quarter of an hour. It begins soon after birth, and lasts for from eight to twelve months. To the physician unfamiliar with the condition, it appears to be a serious affair, and to demand active measures; but, as a matter of fact, it involves no dyspnœa, and does not affect the nutrition or development of the child; moreover, it is very obstinate to treatment, and ultimately ceases of its own accord. The author regards it, therefore, as being within physiological limits, and recommends no treatment.

The next series of symptoms relates to the brain; and the first is *a remarkable drowsiness which makes its appearance without fever or other disturbance, and persists for some time.* Pyrexia, from any cause, is enough to produce drowsiness in a child; but when the latter coincides with a normal temperature, and continues so for twenty-four to thirty-six hours, it becomes a most valuable symptom of commencing brain disease; and the same holds good when the drowsiness sets in upon convalescence from fevers when the pyrexial stages are passed. The only other conditions that can produce this apyrexial drowsiness are narcotic poisons and uræmia, but these are easy to differentiate. Another single symptom of great value in the early diagnosis of brain-disease is *a very elevated incompressible anterior fontanelle.* This indicates not only increase of the contents of the skull, but also that that increase is due to something more dangerous than simple hyperæmia. It is all the more valuable when the child is wasted from any cause. When the swelling is so great as to resemble a wedge, and no trace of pulsation is present, the disease is probably either intermeningeal hæmorrhage or purulent meningitis of the convexity.

The next series of single symptoms relates to the *character of the child's cry.*

1. A violent shrill cry, lasting two or three minutes, marked by anxious expression, and occurring about an hour after the child has fallen asleep, and repeated night after night, is probably due to the action of dreams on an irritable nervous system. It can be cured by the administration of a full dose of quinine an hour before bedtime. 2. A cry, lasting frequently five to ten minutes, and recurring periodically several times in the twenty-four hours, indicates, more especially if dysuria have been observed, spasm of the bladder, and can be cured with a dose of belladonna at bedtime. 3. The cry accompanying defæcation indicates, as is well known, fissure of the anus. The author says nothing of operation for this, and recommends aperients and an ointment of zinc and belladonna. 4. "A violent, almost continual cry, the hands grasping the head, which is rolled round and round, and buried in the pillow," in the little children, indicates otalgia. 5. A cry, lasting days or weeks, increased on movement, and associated with profuse sweating and fever, is rare, but may indicate acute general rickets. 6. The cry associated with chronic sleeplessness is difficult to relieve, though it frequently appears to have no ill effect upon the child's nutrition. In some cases, it appears to be inherited, as one of the parents has occasionally been observed to be the subject of insomnia or hemicrania.

The next series of single symptoms have no particular interdependence. Amongst these are the following: 1. A striking collapse and immobility of the nostrils almost always indicates hypertrophied tonsils. 2. A weakness and immobility following a short illness, and out of all proportion to such a slight cause, is very frequently the first symptom of infantile paralysis. 3. A single symptom of importance, in a condition which is sometimes void of symptoms (congenital idiocy), is the habit the infant has of perpetually and automatically placing the hands in front of the face. 4. A stiffness of posture and gait, with a pained expression on changing position, is an early symptom of spondylitis. 4. Obstinate vomiting after every kind of food, and lasting for weeks, indicates, in a child whose fontanelles are closed, and whose cranial circumference is large, the supervention of acute upon chronic hydrocephalus. The author, in conclusion, is careful to give the oft-repeated warning against diagnosing a disease from a single symptom—a real pathognomonic symptom being rare. He claims for his observations, where these are original, the merit of facilitating diagnosis at a stage when treatment is likly to be followed by rapid benefit.

Pavor Nocturnus.

In the *Boston M. and S. Jour.*, April 17, 1884, we read that Dr. OSCAR SILBERMANN, after carefully reviewing the opinions of those authors who have written about the "night terrors" of children, finds the greatest diversity of views expressed concerning the ætiology of the disease, some contending that it is an irritation of the cerebral substance, and others a disturbance of digestion, which produces a certain group of symptoms, best represented, however, according to the investigations of Silbermann, by the general term "pavor nocturnus," provided that we recognize two forms of the disease, namely, an idiopathic and a symptomatic pavor nocturnus. By idiopathic pavor we understand a disease *sui generis*, originating primarily in the brain, and running its course in the central organ of imagination (cortical substance). The symptomatic pavor is a reflex neurosis, characterized by dyspnœa and anxious crying, and especially caused by irritation of the vagus. The former is the most frequent, and attacks children between the ages of two and six who are delicate and easily excited, but mentally bright. The symptoms are somewhat as follows: After the child has eaten its supper with a good appetite, has gone to bed, and has slept for two or three hours, it awakes with a cry, sits up in bed with wide-opened eyes, and wrings its hands or wards something off with them; its face is often very red and covered with perspiration; the respirations and pulse are somewhat accelerated; the temperature is normal. The child is unconscious, and does not heed the soothing words of those who are around it. After ten or twenty minutes it becomes quiet, begins to cry, recognizes its friends, asks for a light, and then usually goes quietly to sleep, and in the morning has no recollection of what has occurred. No organic cause can be found for this group of symptoms, and it is rather to be sought for in the impressions made on the child's mind during the day. Anæmia, rachitis, and other constitutional anomalies, are doubtless predisposing causes, but often fail to be found, the conspicuous feature of the disease always being an expression of fright. Dread may be objective or subjective, and there seems to be no doubt but that in the idiopathic form of this disease it is objective. The symptomatic pavor is usually found among children who are strong, and are free from constitutional disease and from a nervous temperament, some indiscretion of diet appearing to be the cause of a group of symptoms described as follows: The child eats its supper and goes to bed as usual, but is soon noticed to be very restless, cries out, grinds its teeth, sucks its mouth; its eyes are half closed, and at times it breathes long and deeply. After this uneasy sleep has lasted for an hour or two, it wakes up with an anxious cry, suffers from dyspnœa, and utters short interjections, as ah! ah! instead of the words representing the object of its imaginative fear, as in the idiopathic pavor. The attack does not last so long as in the other form. The pulse is irregular while the dyspnœa lasts, and then the child goes to sleep again, but is usually restless for the rest of the night, and the attack may recur several times in the same night. These children are also very apt to complain in the night of pain in the epigastrium, and on the next day to be found with a coated tongue, some fetor of the breath, and, perhaps, an attack of vomiting or diarrhœa. As in the other form, there is no recollection of the attack on the following day.

An analysis of this second form of attack shows that it comes on slowly, gives premonitory signs of its approach, and lasts a shorter time, two to six minutes, the idiopathic form being sudden in its onset, and lasting from ten to forty minutes. The fear in the symptomatic form is evidently caused by the dyspnœa, and the dyspnœa and irregular pulse by irritation of the vagus. Silbermann then reports eleven cases: of these two were three years old, three four years, two five years, two six years, one seven, and one eight. As a summary of his article he presents the following conclusions: (1) There is a well-marked distinction between the idiopathic and symptomatic forms of pavor nocturnus. (2) While fear is common to both, it is in the idiopathic form objective, and in the symptomatic subjective. (3) The idiopathic pavor is a disease *sui generis*, characterized by a transitory hallucination expressing objective fear, caused by abnormal irritation of the brain, and always accompanied by a defect of memory.

(4) The symptomatic pavor is a reflex neurosis from the gastric fibres of the vagus to the pulmonary terminal fibres, thus causing dyspnœa and expressions of subjective fear; we here also have amnesia.

Scarlatina of the Fœtus in Utero and of the Mother at the Ninth Month of Pregnancy.

Before the New York County Medical Association (April 21, 1884), Dr. Charles A. Leale read a paper on this subject, in which he stated that scarlatina of the fœtus *in utero* so seldom occurred that many physicians of extensive experience, and several writers on the diseases of children, doubted the possibility of this disease occurring in the new-born; but, having had the sad experience of witnessing it in its malignant form in a young family, he felt it a duty to warn the profession of the danger of communicating the poison to the pregnant woman. This warning seemed specially called for, as a quotation was making the rounds of the medical journals, setting forth the immunity of the puerperal woman from scarlet fever. In the light of his own experience and that of other observers, Dr. Leale said we might just as well maintain that a man who had received twenty-six bullet wounds without being killed was in a safe position. A brief summary was given of the cases of probable scarlatina in the new-born, scattered throughout medical literature, and quotations were made from different authorities on the diseases of children, expressing their doubt as to the correctness of the diagnosis of reported cases. But the accumulated testimony of a number of European and American observers strongly demonstrated the possible occurrence of scarlatina in the child at birth. In making this statement, he referred to that form of scarlet fever which was contagious, and recognized as being due to a specific poison, and not to certain forms of septicæmia attended and followed by some of the symptoms and sequelæ of scarlet fever. He had attempted to gain wider information bearing upon the subject by a reference to the statistics of the Board of Health, but the figures only gave the sex and the age at which the patient was affected.

During the past twenty years, Dr. Leale has seen only one case in which scarlatina had developed in the fœtus *in utero*, but he had seen three cases of undoubted puerperal scarlet fever, two in his own practice, one patient having died and the other having recovered. There were all the undoubted symptoms of the disease in a severe form—the fever, eruption, desquamation of the skin and nails, and in one case loss of hair and tedious convalescence. The third case was seen with the late Dr. Peaslee, who considered it an unmistakable case of scarlatina. The patient died soon after delivery, and the child lived but a few minutes, on account of the intensity of the throat symptoms rendering it impossible for it to breathe.

The case of scarlatina in the fœtus which had come under his observation was in a young and exceptionally healthy family. They had lived in the country, and had recently come to the city and lived in a fashionable French flat. The mother was proud to say she had never been sick, had not even had the usual diseases of childhood. She was twenty-four years of age, the father twenty-five; they had a boy of four years, and a nurse fifty years of age. A visiting relative came directly from a house where scarlet fever had prevailed in a distant city and unpacked her trunk, containing the woolen dresses, in the sleeping-room of the lady. On January 9th Dr. Leale was sent for, and found the son sick with scarlet fever. Examining the mother, who had advanced about to term, he found she also had the eruption upon the chest and abdomen, the mucous membrane of the fauces was intensely reddened, and within a few hours the entire body was covered with the eruption of a malignant form of the disease. The fœtus, from its violent motions, appeared to be in convulsions. The mother became delirious. It was considered necessary to deliver quickly in order to save either the mother or the child. The cervix was accordingly dilated, and within four hours the forceps was applied and the child extracted, without injuring mother or child. It was a large boy. The bleeding which took place with the expulsion of the placenta relieved the cerebral congestion and led to consciousness in the mother. For some hours her condition was improved, but after twenty-four hours from delivery the temperature again rose to 106.5° F., the skin became of dark-purple color, and the symptoms in general grew worse until fifty-six hours after delivery, when she expired. Almost immediately after death the body was beyond recognition by any of her friends. The father alone, of the entire family, escaped having the disease, he being the only one known to have had it before. All the other members of the family—viz., the son, the newly-born child, and the aged nurse—passed through the different stages of the disease. These three recovered.

Puerperal Fever-Recovery.

Dr. T. A. MITCHELL thus writes to the *Brit. Med. Jour.*, April 12, 1884:

On August 6th, 1883, I was called to Mrs. B., aged 34, the mother of one child. She complained of a feeling of sickness, and great prostration, and had a suspicion that she was pregnant. In the course of another week, the sickness continued and increased to great severity; the stomach would not now retain even a little water. Bismuth, hydrocyanic acid, oxalate of cerium, morphia-injections, blistering the stomach, and dressing the raw surface with morphia, failed to produce even temporary relief. It was evident that she was pregnant; and, in consultation with another medical man, it was decided that the procuring of abortion would be the only means of saving her life, as she had for six days been living on nutritive injections. On September 1st, with the aid of speculum and polypus forceps, we introduced a sea-tangle tent into the os and left it there. On the following day two more were inserted; and, on the third, the os was reduced to the size of a shilling. From this time the sickness began to abate; she could now retain on the stomach a little beef-tea, soda-water, and milk. She was apparently better, and we then decided to wait and see what the effect would be. The sickness seemed only to return occasionally, and pass off again without any interference.

Thirty-one days short of the two hundred and eighty, March 5th, 1884, she was seized with violent labor-pains, and in four hours was delivered of a badly-nourished male child. Sixteen hours after delivery I found her doing very well; but, thirty-one hours after delivery, she was suffering great pain, and had been becoming worse for the past two or three hours. I was sent for; and, on arrival, I found her lying on her back, with her legs drawn up, and groaning in agony; the tongue was covered with a thick brownish fur; pulse 120; temperature 106°

Fahr.; respiration 28; the secretion of milk was arrested; the lochia were almost stopped, and the little that came away was fœtid. I ordered flannels wrung out of boiling water and turpentine to be applied to the abdomen, changing them every twenty minutes; moist hot flannels were laid on the vulva, and warm injections of lime-water were thrown into the vagina. I gave her a mixture containing ten minims each of sulphuric ether, aromatic spirit of ammonia, and tincture of opium, with twenty minims of compound tincture of lavender, to be taken every three hours.

Next day, at 3 a. m., she appeared to be much worse. She was delirious, and the skin was bathed in a cold clammy sweat; pulse 120, temperature 108°, respiration 30. The abdomen was very much distended and tympanitic; the pain was of a most excruciating character. I introduced into the womb a gum-elastic male catheter, and, with a syringe, I washed out its interior with about ten ounces of lime-water. As the bowels had not been relieved, I gave two ounces of castor oil, some of which she vomited again, and I ordered that the medicine was to be repeated every two hours.

Next morning there was no improvement. I washed out the womb again as before, and at noon she appeared a little better. Pulse 118, temperature 106°, respiration 26. The skin was covered with a more healthy secretion, the bowels were copiously relieved of a dark fœtid substance resembling coffee-grounds. At 3 p. m. she was better, and slightly conscious: pulse 118, temperature 104°, respiration 26. The lochia had reappeared, and the abdomen was covered with little vesicles. Over the stomach and chest, as high up as the fourth rib, there were numerous bright red spots, of a roundish shape, and raised above the surface. At midnight she felt very prostrate; her bowels were opened again; pulse 102, temperature 103°, respiration 24. She took about two ounces of beef-tea, and a little soda-water and milk.

At eight o'clock on the next morning, she had had three hours' quiet sleep. Her tongue appeared moist and smooth, the stomach less distended, the lochia were very scanty, the odor was not so unpleasant, the pain was considerably diminished. In the evening, the pain had quite gone; pulse 80, temperature 99°, respiration 21. The breasts were tender and hard. On drawing the nipples, milk came away.

Next day, March 10th, she had taken beef-tea, egg and milk, with a good appetite; the pulse and temperature were quite normal, but the abdomen was still distended. Only a trace of uterine discharge remained, and that was of a sanious character. On March 15th, she was able to sit out of bed for two hours, and felt quite well.

This is the third somewhat similar case in which I used injections of lime-water, and in all cases this proved beneficial. This case appears peculiar, as in her first pregnancy the patient never suffered from serious sickness, and her confinement in all ways proved most satisfactory.

Again, I wondered whether the attempts at dilating the os predisposed to the fever.

A New Method of Treatment of Angiomatous Growths.

DR. HENRY O. MARCY thus writes in the *Archives of Pediatrics*, May, 1884: Although relegated to the domain of minor surgery, there are few surgeons who have not often met with cases of angioma which have given great difficulty in the cure; and when effected, have left very unseemly cicatrices.

Owing to the uncertainty of the ligature and the resulting deformity, many have advised the careful dissection of the vascular tumor, retaining the skin, which, although discolored, will, after a time, fade out, and by this means lessen the resultant deformity.

I know of no method having been advocated for the application of the ligature by which it has not been designed to secure complete destruction of the enclosed tissues. It is the knowledge of such destruction, and the consequent deformity from cicatricial contraction, which has caused the operator to include as narrow a limit of the tissues as may be deemed practical, preferring a second operation to an over-large slough. On this account, the operation often proves a failure.

In most instances, even in a rapidly-growing nevus, there will be found a proliferating reinforcement of the connective tissue upon the borders of the vascular zone, as if nature was endeavoring to erect a barrier against a farther spreading of the disease. Not to include this in the measures devised for constriction means failure, and in a short period the cicatrix may be found borne upon the top of a rapidly spreading erectile growth.

For a considerable period, I have applied for the cure of a variety of vascular growths a suture which I have called "the shoemaker's stitch," since it carries, by means of a long needle set in a firm strong handle, the ends of a suture from opposite directions through the same puncture. The eye is placed near the point, which is without cutting edges. Armed with the ligature, the needle is thrust deeply under and quite away from the vascular growth; emerged from the distal side, the ligature is detached, and the opposite end threaded, when it is withdrawn and again inserted, purposely only a short distance from the first puncture, since it is important to include only a comparatively small portion of tissue. Thus the process is repeated, stitch after stitch, until the entire mass is enclosed, and the fixation is completed by a single knot. In this way uniform and steady pressure can be attained and maintained as long as is desired.

The purpose of the procedure is not to strangulate and cause necrosis of the tissue, but to constrict so as to reduce to the minimum the circulation, and yet preserve its integrity. The use of the stitch, as here described, was first devised and put in practice by myself, some years since, for ligating the uterine stump after the removal of the organ, where I had felt it very undesirable to have necrosing tissues shut up within the abdominal cavity.

A brief description of a case operated on in the above-described manner will serve best as an illustration:

A child about eighteen months old presented a rapidly proliferating nevus upon the right side, posterior to the axillary line, involving the sixth and seventh intercostal spaces. Its diameter from above downwards was about two inches, while its long axis, parallel with the ribs, was three inches, and it was elevated about one inch above the surrounding parts. About half its size was covered with a cicatrix, resultant from an operation undertaken for its cure three or four months earlier.

I made two incisions through the skin parallel to the long axis of the tumor, and enclosed the mass as above described.

Upon the completion of the operation, the tissues enclosed were a deep purple, which slowly faded to a dark pink upon the fifth day, when the stitches were cut away and a rubber bandage applied over the compress, in order to hasten the absorption of the firm, hard mass remaining.

This slowly supervened, and there is now, two years after the operation, the cicatrix resultant from the first operation, and the two parallel lines showing the incisions through the skin. The incision through the skin very probably renders the constriction less painful, but I would advise the sewing without incision in operating upon the face or exposed portions of the body, since there would result at the most only the puncture-points to mark the location of the angiomatous growth.

I am well aware that there are locations where the application of a suture, as here described, might be very difficult or impossible; but I am assured that in most instances the application can be made much more easily than the complicated ligatures devised by the late Sir William Ferguson, or its modification as used by Mr. Erichsen.

Dropsy in Pregnancy.

In the *Brit. Med. Jour.*, May 19, 1884, Dr. HALL reports a case of pregnancy complicated by dropsy. In October, 1881, he was called to see the patient, a young woman of 26, who was pregnant three months, and who complained of pain in walking, caused by swelling of the labia. The left labium especially was greatly enlarged, tense, hard, and red. There was also follicular inflammation internally. At the entrance of this left side there was a small fissure-like ulcer. The treatment employed was nitrate of silver to the ulcer, astringents for the inflammation, and rest. Four or five days after this the swelling remained, and gradually became worse till, in a few more days, there was every appearance of abscess. One day, shortly after this, pain was found gone from the left side to the right, which was now as large as the other side had been at first, while the left was about the same size as at the last visit. The follicular inflammation was as before. As the ulcer gave rise to a suspicion of specific disease, she was ordered iodide of potassium, which, after some time, produced its own eruption. The other treatment was continued, the astringents being injected by Higginson's syringe. The diet was of the most nourishing kind. From this time she began to recover, and the ulcer disappeared, but the swelling did not go entirely from the labia, and the inflammation of the vulva, etc., continued slightly. At this time the patient seemed very large, much more so than the pregnancy would account for. She was lost sight of for some time after this, but at the eighth month she was again seen, when the legs and thighs were distended with fluid, like anasarca, but there was no swelling of the hands, and very little of the face; there was no albumen. The swelling in the legs increased, and the hands and face became much swollen. The swelling of the abdomen was larger than in ordinary pregnancy.

One morning, early in March, labor came on at 4 a. m., and on seeing the patient at 9 a. m., a foot was found in the vagina. The patient was very much swollen about the face, and was very weak, and was delivered at once under chloroform. The child was full grown, but very feeble, and hardly breathed. When delivering this child, the swollen labia rendered force necessary in order to extract, the pains also being very inefficient. After attempting to restore the child for some time without effect, and the cord being pulseless, it was tied, and the child removed dead. Another child was then found with head presenting, and this was delivered with forceps, on which a great gush of fluid took place, running through to the floor. This second child lived. After delivery, the mother seemed well, and she continued fairly well for a few days; the swelling diminished in the legs, but continued in the face and arms, being greatest on the side on which she lay. On the fifth day after delivery the temperature was 103.8° Fahr., the pulse quick and feeble. Lochia kept up well. The swelling then diminished, first in the legs, and then in the face, but continued slightly for weeks after, so as to threaten to become chronic. Fifteen days after birth the child suffered from swelling of the scrotum and penis, and difficulty in passing water. Three weeks after delivery the mother suffered from pain in the labia, and on each there was found a flat, unhealthy ulcer, covered with diphtheritic membrane. These ulcers were not exactly opposite each other. Under stimulants this condition gradually improved, and she was fairly well at the time she was last seen, *i. e.*, on the day of the report. There was, however, still a slight amount of swelling. He thought it doubtful whether the case was or was not specific.

Dr. Mackenzie Booth mentioned that he had seen a case of twins somewhat similar as to swelling in the legs. There was, however, no swelling in the face, and no symptoms of syphilis, or signs of heart disease.

Dr. McGregor mentioned a case of general dropsy in pregnancy, where compound jalap-powder, to the extent of a drachm daily, and diuretics, effected a cure. He remarked that occasionally pulsation in the cord arose from the child and not from the mother.

Dr. Simpson thought the fact of ulcer coming and going was interesting. He expressed a suspicion that the dropsy might have been set up by some diphtheritic mischief.

The Causes of the Shape of the Pelvis.

From the *London Med. Times*, May 31, 1884, we learn that a recent number of the *Zeitschrift für Geburtshülfe Gynäkologie* contains a paper by Dr. J. Veit, of Berlin, on the above interesting subject. The elucidation of the subject, from a mechanical point of view, is chiefly due to Litzmann in Germany, and Matthews Duncan, in this country, whose method has been followed, in their able contributions to our knowledge, by Leopold and by Champneys. Litzmann's fundamental proposition is, that the shape of the pelvis depends upon the co-operation of four factors: (1) The tendency of the bones to grow in a particular shape. (2) The weight of the body. (3) The resistance of the pelvic bones and cartilages. (4) The pressure and traction produced by the muscles attached to them. Taking as a starting point the pelvis of the new-born child, he seeks to explain the production out of it, by the different forces named, of the various forms of deformed pelvis. His views obtained very wide acceptance, but lately they have been opposed, chiefly by Kehrer, Fehling and Schliephake. The paper of Dr. Veit is devoted to examining some of the objections raised to Litzmann's views by these authors. One of their main arguments is based upon the so-called fœtal rachitic pelvis—a pelvis that is met with in the fœtus, therefore produced by forces acting in utero, and much resembling the rachitic pelvis of the adult. While the child is floating in the liquor amnii, the weight of the trunk cannot possibly be operative in altering the shape of the pelvis, and thus if the rachitic pelvis can be produced in utero without the pressure of the body weight, it follows that this pressure cannot be an important factor in the production of this shape of pelvis in extra-uterine life. Dr. Veit points out that those pathologists, Virchow among them, who have investigated the morbid condition present in these fœtuses, are of opinion that the disease is not rickets. (As we are writing for English readers, we may mention that the subject was brought before the Pathological Society some time since by Dr. Thomas Barlow, who pointed out the differences between this disease, which is a cretinoid condition, and genuine rickets.) If, then, these pelves be not rickety, inferences drawn from them as to the production of the rickety pelvis fall to the ground.

But further, Kehrer has described rickety pelves in *children*, and these show the transition between the normal shape of the fœtal pelvis, and the adult rickety pelvis that might have been expected if Litzmann's views were correct. The latter author has laid much stress, as might be expected, on the study of the normal fœtal pelvis. This branch of the subject has been well worked at by Fehling, who has advanced our knowledge of it by most careful measurements. Dr. Veit examines these, and adduces also measurements made by himself and by Dr. Carl Ruge. From these he shows that the sacral promontory, which in later life lies in the plane of the pelvic brim, in the fœtus is situated *above* the brim. He holds that allowance must be made for this difference before inferences can be drawn from the comparison of the fœtal and adult pelves. Dr. Veit draws another argument from the shape of the pelvis which accompanies congenital dislocation of the hip. When this deformity is met with in the adult, a characteristic shape of pelvis is associated with it; but in the fœtus, no such peculiarities in the pelvis have been met with, showing that the effect of this dislocation upon the pelvis must be produced subsequent to birth. Dr. Veit's general conclusions are the following: "The flat pelvis, rachitic or non-rachitic, of the adult, is not identical in its characters with the pelvis—either normal or so-called fœtal rachitic—of the fœtus. The pelvis of the adult differs essentially from that of the fœtus; and the change from the shape of the one to that of the other, can only be explained by forces acting in extra-uterine life. Pathological shapes of pelvis occur in utero, but they are essentially the result of general and local malformations, and stand in no genetic connection with similar shapes of pelvis occurring in the adult. Litzmann's explanation of the origin of pelvic deformities, by the pressure of the body weight, etc., is necessary for their comprehension; the other forces which have been invoked are either too definite in their effects, or their potency has been over-estimated.

On Strong Mental Emotion Affecting Women as a Cause of Idiocy in the Offspring.

Before the Obstetrical Society of London (May 7, 1884), Dr. ARTHUR MITCHELL read a paper on this subject:

The author remarks that this cause is often assigned by the mother, but in most cases without sufficient reason, especially as more probable causes can usually be discovered occurring after birth. In some cases, however, he has convinced himself that this is the true cause, especially if the mental state has been protracted, and if the rapidity of developmental changes in the fœtus be considered. Such disturbance may act either as arrest or as misdirection, and probably through the bodily health of the mother. Sudden emotions may, in some cases, have a similar effect; under such conditions, patients have described violent fœtal movements following the shock, and afterwards a cessation of movements for some days. Such movements are probably convulsive, and if so, are quite capable of accounting for permanent mental damage. Mental emotion is known to lead to abortion, sometimes apparently preceded by the death of the fœtus. The paper concludes with an account of 6 cases drawn from 443 cases of idiocy or imbecility consecutively examined, with allusion to 22 other cases, making 28 cases observed in a total of 1,500. In the 22 cases, the evidence was less satisfactory.

The President gathered that the effect was presumably produced through the general health of the mother, rather than directly on the fœtus.

Dr. West remarked that such statistics could not be trustworthy until compared with a similar series, in which no such results had followed from the same causes. The latter class would, in his opinion, prove a large majority. His present opinion coincided with the verdict, "*not proven.*"

Dr. Fletcher Beach said that, according to statistics collected by him in the Darenth Asylum, fright and other violent mental emotions accounted for about one-tenth of the cases in which histories could be obtained. But in many of these cases, there was also intemperance, involving worry and anxiety to the mother, ill-usage from the husband, pawning of furniture, and want of food. In a large number of cases, there was a history of insanity, imbecility, epilepsy, or paralysis in the parents.

Dr. Cleveland agreed with Dr. West. He related the history of a family of six, three of which (each alternate child) were idiots; both parents were sane, there was a history of insanity on the mother's side, but she had never herself been insane.

Dr. Aveling regretted the absence of histories of insanity and consanguinity from the cases related.

Dr. Matthews Duncan observed that Dr. Mitchell did not claim to have proved his theory, but only said he had "convinced himself" of the truth of it. He (Dr. Duncan) thought he had made it highly probable. Dr. Mitchell had already shown that the age of the mother, the number of the pregnancy, and of turning, influenced the offspring. Ancell had shown that the injurious or favorable influence of the number of the pregnancy extended over the whole life of the children to adult age, influencing the rate of their mortality. Such facts proved the grave effect of slight causes, and favored the author's view.

Dr. Heywood Smith pointed out the omission from the paper of the date in utero-gestation at which the perturbing influence occurred. In physical deformity of the offspring, the mental shock to which the mischief was ascribed by the mother happened, in his experience, generally between the third and fourth month.

VII. SURGERY.

Most Efficient Treatment of Scalp Wounds.

Dr. J. McF. Gaston thus writes in the *Atlanta Med. and Surg. Jour.*, May, 1884:

The time-honored impression that the air should be excluded from wounds of all kinds has latterly sought a solution in the demonstration of the ingress of minute organisms from the atmosphere, which is claimed to supply the *materies morbi*, or at least to aggravate the operations of any and all other causes of trouble to the organization. How far complications may arise from this source remains to be settled; and in the meantime some common sense is requisite in the practical application of means of relief for the ordinary lesions of the various tissues of the body, without regard to the preconceived views of speculators and experimentalists.

As a contribution to this class of observations, I have to submit the results of a considerable experience in the treatment of wounds of the scalp, extending to the bony structure of the cranium.

If it is understood at the outset, that I accept the doctrine of closing hermetically all clean incised wounds, whether deep-seated or superficial, in whatever order of tissues they may be found, so as to effect a union by adhesive inflammation, it must be based upon the recognition that there are no injuries within that may require an outlet. The exudations from lacerated or bruised tissues cannot safely be pent up by the closure of the superficial parts, and whenever this result is anticipated, the closure of external wounds cannot secure a satisfactory issue to the case.

In the lesions of the scalp, even by cutting instruments that divide the periosteum, and involve the external laminæ of the bone, it is, to say the least, questionable as to the immediate closure of the wound; and in those injuries which are most frequent, from blows inflicted by falling upon angular bodies, or by the stroke of a cudgel, whether of wood or metal, the subjacent modification is such as to require relief primarily to the serous exudation, and, secondly, to the purulent discharge, so that an outlet is essential in their treatment.

The wide field of investigation as to drainage becomes involved in the decision of the proper management of this class of cases, and the underlying principle of the practical question is embodied in the decision of the indication presented by the state of things within, for an outlet. Whatever may be the nature of the injury, or the character of the surgical operation implicating the subcutaneous tissues, we must determine in advance as to this point; and unless there is an assurance amounting almost to certainty, that no serous exudation or purulent collection will ensue, the external opening should not be completely closed. If the tissues within are liable to undergo decomposition, the way must be left open for the discharge.

I am fully aware that the fundamental issue lies in the greater or less predisposition to such degeneration from the wound being open or closed, and that those who claim a germinal element for the atmospheric contamination, seek to prevent this by exclusion; yet it is evident that with all the precautions that may be adopted for this end, it is impossible to obviate the disintegrating process within for all cases. Cleanse a wound completely from the bottom of all coagula, and use every antiseptic application available on the occasion of making the dressing, yet if there are contused tissues beneath the surface, no external measures can avail to prevent the trouble within, and the decomposed fluids must be allowed to escape if we would avoid further disturbance.

Wounds of the scalp were originally treated by me with adhesive plaster, under the supposition that stitches were liable to induce erysipelas or other consequences of the local irritation; but I soon found that by the accurate apposition of the margins a speedy superficial agglutination occurred, while the parts beneath were not in a healthy state. A few cases of constitutional disturbance growing out of this degeneration beneath the hairy investment, with the urgent local indications for opening up the wound for the discharge of pus, that had formed in contact with the periosteum, or immediately upon the bone of the cranium, convinced me that this shutting up of a contused wound was not a safe proceeding.

In view of the certain dangers encountered by the union of the edges with the adhesive plaster, I was inclined to risk the lesser evils likely to attend the sutures, and resorted to them with water dressings, hoping thus to favor the escape of any grumous blood that might remain in the bottom of the wound, and to permit the outlet of the serous exudation from the lacerated margins of the wound. With only so many stitches as seemed requisite to keep the parts in apposition, there was still a great proclivity to speedy union of the superficial tissues of the scalp; and though no erysipelas ever appeared as the consequence of suturing the scalp, there were untoward effects from the closing of the wound, such as had been encountered from the close approximation by the adhesive plaster. I hoped that this difficulty would be effectually obviated by the abandonment of strips and stitches, with the substitution of interlacing of the hair so as to bring the edges together.

This mode of proceeding had been recommended in the periodical literature of that period, but to whom it should be credited is not recalled, and it seemed to fulfill the indications for an approximation of the divided tissues without presenting any obstacle to the discharges, so that the results were more satisfactory than with stitches or plaster. In the meantime, observing that with all the care I could use in weaving the small tufts of hair across from side to side alternately throughout the extent of the wound, and securing them with a bandage at each interlacing, all would be loosened when I went to repeat the dressing, so as to afford no traction upon the margins, it struck me that no real benefit accrued from this process. Then it was, for the first time, that I was brought to the conclusion that the wounds of the hairy envelope of the cranium did not require any traction to retain their margins in apposition, and that I might dispense with such appliances altogether. From that time forward I have adopted the plan of clipping away the hair for an area that admitted of the application of a simple lint compress, moistened with water, or with the addition of tincture of arnica, and occasionally, for the relief of pain or soreness, adding some laudanum. The medication has been varied, and after a week, when there may be some suppuration, has been modified by smearing the lint with a camphorated resin ointment, and with this the cure has uniformly progressed favorably, leaving no broader cicatrix than had followed the other measures.

As it may appear to some that my good results with this simple means of treatment are owing to the absence of complications in the cases, I may state that my field of observation in this class of injuries during the past sixteen years has been most ample, presenting the most varied and most aggravated specimens of contused scalp wounds. Among others, I may note the case of an athletic man who had received many strokes from a bludgeon that opened eleven wounds through the scalp so as to expose the cranium, with sundry other cuts and contusions on different parts of the head. In some places, these incisions made angles with each other, as his position was shifted towards the two antagonists who attacked him, and the corners were even elevated and displaced, so that it was a matter of doubt whether they could be retained in place without stitches. But in view of the wretched plight of the sufferer, I was indisposed to add to his pain by using a needle; and washing the wounds thoroughly with carbolized water, so as to get clear of all coagula, the coaptation of the flaps and angles was ultimately effected satisfactorily, and the lint compress covering nearly all of the head, was saturated with a camphorated solution of carbolic acid, with a moderately firm bandage securing the whole. The oozing of blood from the numerous incisions required frequent changes of the dressing during the first afternoon, but on the following day the same lint compress was kept on and constantly moistened with the ten per cent. carbolic camphorated solution. This course was continued for a week, and subsequently the camphorated resin salve was applied with the lint. Strange to say, there was very slight suppuration from any of the wounds; and in the course of fifteen days, most of them were healed. The profuse hemorrhage that occurred at the outset from such numerous wounds, involving so large a portion of the scalp, afforded exemption from brain trouble, subsequently during the fever of reaction, and there was very slight indication of mental perturbation at any time during the treatment.

Having had frequent opportunities to note the effects of blows upon the head, I have been impressed with the fact that concussion of the brain and extravasation within the cranium occur in those cases of incision of the scalp more rarely than in violence that does not produce a lesion of the tissues. Two notable instances under my observation illustrate the serious results of bloodless injuries. One being a blow upon the side of the head in which there was not even abrasion of the scalp that caused death, and the post mortem revealed effusion of blood upon the outer surface of the left lobe of the brain. The other, in which a man fell backwards upon his occipital protuberance, causing fracture of the base of the skull, from which he died, and yet the scalp gave no signs of being even bruised. It would appear that the propagation of shock to the brain must be diminished by the division of the integument of the head, and secondarily the flow of blood from the wound lessens the liability to suffer from inflammatory action. Hence the great importance of allowing all the exudation to escape during the early management of such injuries, and the necessity for evacuation of any pus that may be formed in contact with the cranium in the further progress of the treatment.

There are few surgeons who, with all the antiseptic outfit of the present day at hand, would undertake to close up a wound in any part that was known to contain mangled tissues that must be detached by disintegration at an early or later period of the process of reparation, and in these lacerated and bruised conditions of the pericranial integument, the same precaution is requisite in leaving an outlet.

It is not claimed that in every instance of wounds of the scalp unfavorable results do ensue from immediate closure of the incision; but I do insist that it is the safest and best treatment to dispense with adhesive plaster, stitches, interlacing of the hair, or any other means of traction to approximate the edges of scalp wounds; and to apply simply a dressing of wet lint, with the moderate support of a bandage at the outset, and a mild salve, after a few days have elapsed, if there is suppuration. The firm consistence of the scalp keeps the margins in apposition; and with the internal bony support, and the external compress of lint, the lightly applied bandage keeps the subjacent parts drained effectually, so that the adhesive inflammation proceeds under the most advantageous conditions for uniting and healing the tissues. It might be supposed that a broader cicatrix results in cases treated thus than in others, but I have not found it so, and with a profound conviction that the initiation, progress, and termination of this simple mode of treating scalp wounds is the most satisfactory, it is heartily and confidently recommended to the adoption of the profession.

On the Treatment of Furuncle, Carbuncle, and Malignant Pustule

The *Jour. Cut. and Ven. Dis.*, April, 1884, says: "Furuncle, carbuncle, and malignant pustule are affections which really differ from each other only in degree. All three depend upon the introduction of infectious matter into the circulation from without; this matter, in the two first-named conditions, belonging to the class of what are known as septic agents in general, while malignant pustule is the product of the anthrax poison. The latter also is essentially a septic substance—although specific in its nature, like the bacilli—but is much the more powerful."

This statement embodies the rationale of the author's treatment in the diseases named. It is, of course, diametrically opposed to the antiquated but not yet obsolete notion, founded upon the humoral pathology, that furuncle, and even carbuncle, are to be regarded as *critical* complaints, by no means to be suppressed; but, on the contrary, encouraged by poulticing and similar measures, as furnishing outlets through the skin for the spontaneous and generally harmless escape of accumulated impurities, which might otherwise give rise to dangerous diseases.

Furuncle is a *necrosis* of one or more of the *sebaceous glands.* Through a lesion of the cuticle some poison is admitted, which comes in contact with the capillaries of the glands, paralyzes their nerves, produces engorgement and alteration of their blood supply, cuts off their nutrition, and at last causes the death (necrosis) of the tissues which they normally sustain. The surrounding connective tissue, when once the virus has gained access to it, becomes quickly infiltrated, and, being thus subject to increased pressure, the necrosis continues to extend in every direction, especially after *spontaneous infection* has set in from the suppurative nucleus or core.

The parts of the body most liable to furuncle or to carbuncle are those in which the sebaceous glands are most abundant, and the skin is most exposed to injury, of however trifling a nature. Thus, an unclean finger or nail may convey poison into the circulation from the face. The boils and carbuncles which are so common upon the *nape* and *back* are generated by a virus carried from the neck (galled, perhaps, by a stiffly-starched collar), or from the scalp, by falling hairs, and which has found a place of entrance upon the first-named regions. The fingers bring infection to the axillæ, the anus and perineum are contaminated by the fæces, and the finger itself is liable to boils through direct contact, in various trades and occupations, in cooking, dissecting, etc. In the *auditory meatus*, owing to the obtuse angle which it forms near the orifice, its anterior wall is most exposed to contact with foreign substances; therefore, it is not surprising that furuncles are most frequently met with upon this wall.

The reactive inflammation in the vicinity of the septic formation may be confined to its first locality, if the poison is only slightly infectious, or may extend to the larger lymphatics, or, through the veins, to the brain, heart, vena portæ, etc., causing coma, collapse, marasmus, and speedy death.

It is easily inferred from this pathological view that *antiseptic and abortive measures constitute the only rational mode of treating these disorders.*

During the first few hours or days of a boil's existence, it presents merely a small pimple which, being very soon scratched open, is covered with a scab of corresponding dimensions. This scab is removed with a small knife, disclosing a suppurating point—*at once the product and the source of infection—the necrotic focus of the disease.* A small wad of lint, held by tweezers, and moistened with spirits of ammonia, is pressed rather firmly upon this point. The application is repeated six or eight times, a fresh wad being used each time. If the purulent spot has attained considerable size, the surrounding skin must be stellately scarified, before the application of the ammonia, so that the latter may gain entrance on every side. At the same time, the following is administered as a disinfectant of the blood: chinin. muriat., 1.0; aq. dest., 200.0. After the local disinfection, borax ointment (1:30. ungt. glycerin.) is spread over the affected places, two or three times daily, and in a few days they will be completely healed, without much inflammation, unless symptoms of a malignant nature should declare themselves.

In *carbuncle*, the inflamed tissues must be relaxed by a deep crucial incision—especially if the tumor has attained considerable size and is very painful—shreds of necrosed cellular tissue removed by the curette, the purulent cavities washed out with a five per cent. carbolic solution, drainage tubes inserted, and the sore covered with a large antiseptic bandage, over which an ice-bag may be placed for a few days, should the carbuncle show a tendency to enlarge. The dressing must, of course, be renewed every day. Internally, quinine may be given for about a week.

In *malignant pustule*, a crucial incision is made into the small, dark-red, hard, leathery, and cicatricially-thickened eschar, and the surrounding tissues are stellately scarified, especially if they are elevated like a blister. When possible, the crust is completely removed, and the edges of the small resulting sore are also scarified. Spirits of ammonia are then repeatedly applied, as directed above, and the parts smeared with borax ointment and covered with lint or a gauze bandage. In a few days the pustule will be completely healed, leaving a small cicatrix. Here, of course, as in carbuncle, quinine must be exhibited internally, from the commencement, and kept up for a week, but in larger doses; this generally breaks the fever in a few days. In this way, more than one hundred cases of malignant pustule have been treated in the course of a year, *with the most satisfactory results*, only two deaths having occurred—one in consequence of the pustule being seated upon a large goitre, thus causing suffocation; the other attributable to delay in commencing the treatment.

In cases of furuncle or carbuncle on the neck and back, the urine should always be tested for sugar, since diabetic patients are frequently troubled with them in these situations.

The so-called *epidemic furuncle* is generally regarded as the product of some mysterious miasm. It is far more probably caused by *a deposit of septic molecules from the atmosphere, during long continuance of rainy weather, or while the wind is blowing steadily from one quarter.* In cases of this kind, the above described treatment is equally effectual.

Very hard boils on the lips, and those exceedingly painful ones which occur in the *external auditory meatus*, deserve particular attention, since their virus is frequently conveyed, by means of softened thrombi or emboli, into the orbital cavities, and thence into the brain, or else passes *directly* into that organ from the ear, thus causing speedy death. Various kinds of phlogogenic and septic molecules held in suspension by the atmosphere are deposited at each normal inspiration upon the nasal mucous membrane, by whose secretion they are arrested in their passage to the bronchi and lungs. From this situation they are liable to be carried into the circulation through very slight lesions inflicted by the fingers, or by razors, etc., upon the surrounding epidermis, and especially when the finger itself has been previously contaminated.

The application of ammonia is easily made to the upper and under lips. Boils in the internal auditory canal, however, can be effectually treated only by means of the recently-discovered non-caustic disinfectants, which are used without injury to the membrana tympani. Such are thymolized "boracic acid," acetate of alumina, etc., which are applied to the meatus in the form of local baths, after vertical incision of the tumor, and are followed by powdering with boracic acid, iodoform, and the like.

Errors of diagnosis are of small account, since in all the three forms of disease we are considering, the same curative measures are applicable.

Under the title *panaritium* are included diffuse phlegmon, progressive tenosynovitis, extensive peripheral necrosis, arthromeningitis, lymphangioitis, metastatic abscess, gangrene, etc., *all of which originate exclusively in septic poisoning.*

Panaritia are strikingly distinguished by the depth to which they penetrate the tissues, the sudoriparous glands primarily involved in this complaint extending their roots much further down than those of the sebaceous glands; they sometimes compel amputation, or may even result fatally. It is unfortunate that panaritia, at their commencement, are usually mismanaged by the employment of all sorts of poultices and plasters, so that the physician very seldom sees them until they have passed the stage in which abortive local treatment is effectual. Even when this is not the case, the patient almost always refuses to submit to a free incision of the abscesses before pus appears to have formed, and while the finger is not even stiff. Treatment, therefore, has to be directed to the established sequelæ of the disease, and must consist of suspension of the limb, etc., in accordance with general surgical principles.—*Deutsche Med. Wochenschrift.*

The Family History of Cancer Patients.

Dr. W. Rogers Williams furnishes the following interesting points in the *Brit. Med. Jour.*, May 31, 1884:

1. Uterine Cancer.—*The Fathers.*—Of 31 cases in which inquiries were made, in 29 the fathers were dead, the causes of death being as follows: Phthisis, 8; bronchitis, 2; pleurisy, 1; asthma, 1; lung-disease, 1; heart-disease, 1; apoplexy, 3; epilepsy, 1; gout, 1; unknown, 10. In 2 they were still alive and well. Of those who died of phthisis, in 4 cases other members of their families had also died of this disease. There was not a single death from cancer among the fathers. Their average age at the time of death was 59, the youngest being 30 and the oldest 80, two having attained the latter age.

The Mothers.—Of 29 cases in which inquiries were made, 25 had died of the following diseases, and 4 were still alive and well: Phthisis, 4; diarrhœa (in a phthisical person), 1; bronchitis, 4; cancer, 4; childbirth, 2; dropsy and paralysis, 1; apoplexy, 1; epilepsy, 1; unknown, 9. Their average age at death was 61; the youngest being 34, the oldest 87.

The Patients' Brothers and Sisters.—In 17 cases, the following causes of death were noted amongst the adults in these families: Phthisis, 12; cancer of the uterus, 2; insanity, 1; scarlet fever, 1; apoplexy, 1. Of the families in which phthisis prevailed, more than a single member died of this disease in 7. In only one instance were all the brothers and sisters alive and well.

In 26 cases, the number of members in each family was noted, with the result that the smallest family consisted of 4, the largest of 18, the mean being 8.7.

The Occurrence of Cancer.—Of 34 cases in which this point was specially investigated, there was a history of previous malignant disease in eight families, or in 23.7 per cent. The relatives thus affected and the seats of the disease were: On the mother's side (6)—mothers (4)—breast in two, uterus and stomach, each one; mothers' sisters (2)—locality not stated. Patients' sisters (2)—uterus in both.

The Occurrence of Phthisis.—Of thirty-four families in which this particular was noted, one or more relatives had died of, or were the subjects of, phthisis in 19, or in nearly 56 per cent. In all but 5 of these cases, more than a single relative had been thus affected. In one case, the father's father, the father, and several of his brothers and sisters, and 4 of the patient's brothers and sisters, had died of this disease.

The relatives thus affected may be classed as follows: On the father's side (in 10 families): Grandfather, 1; fathers, 6; fathers' brothers and sisters, 6. On the mother's side (in 4 families): mothers, 3; mothers' brothers and sisters, 1. Both parents in 2 cases. One or more of the patients' brothers and sisters in 13 families.

2. BREAST-CANCER.—*The Fathers.*—Of 40 cases in which inquiries were made, 35 had died of the following causes, and 5 were still alive: Phthisis, 10; bronchitis, 1; heart-disease, 3; diabetes, 1; cholera, 1; dropsy, 1; fever, 1; diarrhœa, 1; strangulated hernia, 1; hæmorrhage from ulcer of the leg, 1; senility, 1; unknown, 13. Of those still alive, 3 were well, and 2 were suffering from heart-disease and dropsy. Three of those who died of phthisis had lost other members of their families from this disease; there were 5 cases in which, though the fathers had not themselves suffered from phthisis, their parents or brothers and sisters had. Hence, out of these 10 fathers, 15 may be said to have been of decidedly phthisical families.

None of the fathers had died of cancer; but, in 3 cases, there was a history of cancer on their side, in each case the person attacked being a sister, who had died of cancer of the breast. The average age of the fathers at death was 64 years; the youngest being 33, and the oldest about 93; 5 having exceeded the age of 80.

The Mothers.—Of 37 cases, 28 had died of the following causes, and 9 were still alive and well: Phthisis, 5; bronchitis, 2; chest-disease, 1; dropsy and pneumonia, 1; dropsy, 4; cancer, 2; apoplexy, 3; cholera, 1; liver-disease, 2; diabetes, 1; unknown, 7.

One of those who died of phthisis had lost several other of her relatives of this disease; in 3 cases, though death had not resulted from phthisis, they had lost one or more relatives from it. Thus, of 37 mothers, 8 were of decidedly phthisical families. Among those who deaths were not due to cancer, 5 had cancerous relatives, and 1 had a sister who died of an "internal tumor."

The average age of the mothers at death was 65 years; the youngest being 26, and the oldest nearly 100, 6 having attained or exceeded the age of 80.

The Patients' Brothers and Sisters.—In 17 families the following causes of death amongst the adults were noted: Phthisis, 10; cancer of the breast, 1; diabetes, 1; apoplexy, 1; heart-disease, 5; paralysis, 1; pyæmia, 1; scrofulous joint-disease, 1; childbirth, 1; dropsy, 1.

Of the families in which phthisis prevailed, more than a single member had died of this disease in 6 cases.

In 31 cases, the number of individuals in each family was noted, with the result that the smallest family consisted of 1, and the largest of 14; the average number being 7.4.

The Occurrence of Cancer.—Of 41 cases, there was a history of previous malignant disease in 10, or in 24.3 per cent. The relatives thus affected were: Maternal grandmothers (2)—1 uterus, 1 breast; paternal grandmother (1)—breast; mothers (2)—1 stomach, and 1 tongue; mother's brother (1)—tongue; patients' sisters (2)—breast in one: in the other, locality not stated; female cousin on mother's side (1)—locality not stated; fathers' sisters (2) breast in both.

In one case more than a single relative was thus affected, viz., the patient's sister and her maternal grandmother, both of whom died of cancer of the breast.

The Occurrence of Phthisis.—Of 40 cases, one or more relatives had died or were the subjects of phthisis in 24, or in 60 per cent.; in 11 instances, more than a single relative of the same family had been thus affected. These may be classed thus; On the fathers' side (in 15 families), both grandparents, 1; fathers, 9; fathers' brothers or sisters, 8. On the mothers' side (in 9 families), mothers, 5; mothers' brothers or sisters, 4. Both parents in 1 case; one or more of the patient's brothers or sisters in 10 families.

3. CANCER OF THE TONGUE, MOUTH, AND LIP.—*The Fathers.* Of 20 cases, 18 had died of the following causes, and 2 were still alive and well: Phthisis, 6; cancer, 1 (stomach); lock-jaw, 1; "lung-disease," 1; old age, 1; unknown, 8. Their average age at death was 61; the youngest being 30, and the oldest 95.

The Mothers. Of 19 cases, 15 had died of the following causes, and 4 were still alive and well: Phthisis, 1; dropsy, 1; apoplexy, 1; child-birth, 2; abdominal tumor, 1; heart disease, 1; old age, 1; unknown, 7. Their average age at death was 67; the youngest, 42; the oldest, 84.

The Patients' Brothers and Sisters.—In 9 of these families, there had been one or more deaths from phthisis. In 18 cases, the average number of each family was 8; the smallest, 1; the largest, 16.

The Occurrence of Cancer.—Of the 28 cases, there was history of cancer in 1, a father having died of cancer of the stomach.

The Occurrence of Phthisis.—Of 27 cases, one or more relations had died, or were subjects of phthisis in twelve, or in 44.4 per cent. In 4 of these families, more than a single relation had died of this disease; in 1 case both parents had died of it. On the fathers' side (in 6 families), fathers, 6; fathers' brothers or sisters, 2; on the mother's side (in 1 family), the mother's brother; both parents in one case; one or more of patient's brothers or sisters in 8 families.

4. MISCELLANEOUS CANCERS (including 10 of the rectum).—*The fathers*—Of 17 cases, 14 were dead of the following diseases: phthisis, 2: bronchitis, 2; apoplexy, 1; old age, 1; dropsy, 1; fever,1 ; accident, 1 ; unknown, 4. Three were alive and well. In 1 case, though the father had not died of phthisis, several of his brothers and sisters had. Their average at death was 62 years, the youngest being 36, the oldest 97.

The Mothers.—Of 16 cases, 11 died of the following diseases, and 5 were still alive and well; bronchitis, 1; childbed, 2; apoplexy, 1; cholera, 1; dropsy, 1; small-pox, 1; rheumatic fever, 1; unknown, 3. Though none had died of phthisis, three had lost several brothers or sisters of this disease. Their average age at death was 51, the youngest being 30, the oldest 84.

The Patients' Brothers and Sisters.—There was no history of phthisis or cancer among them. In 15 cases, the number of individuals in each family was noted; the smallest was 1 (of which there was only a single instance), the largest 18, the average 7.4.

The Occurrence of Phthisis.—Of 18 cases, there was a history of phthisis in 5 families, or in 27.7 per cent. Two of the fathers died thus; two mothers had phthisical sisters. In one case both parents, though not phthisical, had lost several of their brothers and sisters of this disease.

An Easy and Safe Method of Sounding for Impacted Gall Stones.

The *Brit. Med. Jour.*, May 17, 1884, says that Dr. GEORGE HARLEY read a paper on this subject before the *Royal Med. and Chirg. Soc.*

The method recommended in this paper for indubitably ascertaining the existence of impacted biliary calculi was illustrated by the narration of a case in which it was successfully performed, in the following manner: The patient, a lady, aged 36, who had been under the care of Dr. Diver for many weeks, suffering from the signs and symptoms of obstructed bile-duct, was placed under an anæsthetic. Dr. George Harley inserted a six-inch long French exploring trocar midway between the umbilicus and margin of the liver, an inch and an half to the right of the median line. Its points being pushed upwards and backwards in the direction of the common bile-duct, no hard substance was met with; on the stilette being withdrawn, ascitic fluid came away, and the trocar could be moved freely in all directions. The instrument was withdrawn and reinserted an inch higher up, and about two inches to the right of the umbilicus. On pushing it in the same direction as before, to the depth of six inches, its point struck into a hard substance, presumed to be a biliary calculus. It was endeavored to estimate the size of the stone by pressing the end of the cannula firmly against the hard substance, and moving the point of the instrument all round it. The inference was that the stone was of the size of a hazel-nut. The punctures were closed by means of sticking-plaster, and the abdomen bandaged. The signs of obstruction now began rapidly to disappear, and it was supposed that the operation had caused the stone to change its position in the duct, and had thus enabled it to pass along into the duodenum. Convalescence at once set in, but was of short duration, for an attack of enteritis followed by peritonitis supervened, and the patient succumbed twenty-seven days after the sounding, and twenty-four after the stone was supposed to have left the duct. At the necropsy the thirteen calculi shown to the Society were found in the gall-bladder, the longest being an inch in length, the next of the size of a hazel-nut, the remainder all much smaller.

The paper ended with the following conclusions: 1. The presence of an impacted gall-stone may be readily as well as safely ascertained in the way described. 2. Not only the position, but even the size and shape of a biliary calculus, may be instrumentally ascertained. 3. A knowledge of these facts may possibly induce surgeons to undertake the earlier artificial removal of dangerously impacted gall-stones than heretofore; an operation which Dr. George Harley thought ought to be, under ordinary circumstances, no more hazardous to the life of the patient than the operation of lithotomy, believing, as he did, that the fatality that had hitherto attended the operation had been almost entirely due to the fact of its having been delayed until the exhaustion of the patient precluded the possibility of recovery. Mr. F. B. Jessett drew attention to four cases in which Mr. Lawson Tait had successfully cut out impacted gall-stones, and stitched the gall-bladder to the abdominal walls; remarking, nevertheless, that the whole question of how to deal with them was very difficult. For himself, he could not but consider that the method of exploration by a sharp instrument was too liable to seriously wound the viscera to be at all advisable. He had operated often upon the dead body by introducing one finger through an abdominal incision and drawing forward the gall-bladder into view; and, if any cause for opening the gall-bladder were by this means ascertained, he should prefer to stitch it to the abdominal parietes before proceeding further. By such a method, operation was comparatively easy, and the escape of bits into the peritoneum could be avoided.

Mr. Gant could not accept Dr. Harley's analogy of the opening of the gall-bladder and the urinary bladder for calculi; for, in the latter case, there need be no extravasation of the secretion into the peritoneum. That was a very important point; and, though Dr. Harley had told them that bile might be tolerated with impunity in the peritoneum of dogs and rabbits, he thought nearly every surgeon must have seen cases of peritonitis following a ruptured gall-bladder and extravasation of bile in human subjects. It might be possible to empty the gall-bladder by a syringe, but he could feel no confidence in such a method. He had failed also to gather from Dr. Harley's paper how he would diagnose an impacted gall-stone.

Sir William MacCormac said he failed to understand how, after an example ending in peritonitis and death, Dr. Harley could call his method "safe," and how, after the first sounding had been completely unsuccessful, he could call it "easy." If any operation were to be attempted, he should, for his part, much prefer that of abdominal section.

Dr. Dyce Duckworth pointed out that the discussion had tended to diverge into a consideration of cholecystotomy, which he was sure could not have been Dr. Harley's intention. He would confine himself to Dr. Harley's subject, viz., a "method of sounding for impacted gall-stones," and presuppose that the presence of an impacted gall-stone had been ascertained. As for the operation which Dr. Harley had performed, he could neither consent to do it, nor to witness it. And it was very necessary to have some clear idea of the method before the *tactus eruditus* of a surgeon could be applied to it, was it to end by certain titillations six inches deep in the abdomen? or, if not, what more was to be done? Much previous *post mortem* experience of impacted gall-stones did not lead to the conclusion that that would be a likely method of displacing them successfully. They were generally found very firmly set, and they could only be moved by very forcible use of the finger and thumb, or perhaps not even then. The issue of Dr. Harley's case was certainly not encouraging. For himself, if he were allowed an opinion on a surgical point—for Dr. Harley's method was pure surgery—he should throw in his lot with those who advocated abdominal section.

Dr. B. O'Connor hoped that Dr. Harley might be able to give some more information on various points which seemed to him of importance, and which had not been touched upon. Was the liver enlarged? Was the gall-bladder enlarged? Was there spasmodic pain after the sounding, as is usual in passage of gall-stones? He was sorry that no satisfactory evidence of the presence of the gall-stone in the evacuations could be given, and he should be interested to know the contents of the peritoneal cavity after death.

Mr. Barwell remarked that it was difficult to induce patients to submit to any cutting operation, such as even a very limited abdominal section, without being able to promise them something; and he did not feel sure he could do so in cases of obstructed gall-duct. He regretted that Dr. Harley had brought forward his case, as he was not able to tell them more exactly what he did with his trocar. He thought it might be possible to sound the gall-bladder for calculi; and, if they were found, to go further by abdominal section, using the puncturing instrument as a guide. He should be sorry if Dr. Harley's unfortunate surgical practice should discredit all attempts to relieve these cases of biliary obstruction.

Dr. C. J. Hare asked how it was ascertained that the stone, touched by this diagnostic instrument of the future (which Dr. Harley had shown), was impacted and not free in the gall-bladder. He should have imagined the point difficult to determine. Moreover, the existence of the thirteen other gall-stones found in the gall-bladder after death was not ascertained at all.

Dr. George Harley, in reply, remarked that the whole subject of gall-stones was very little known; and it was remarkable how few people realized in what a large number of cases they led to death. He could recommend the perusal of a little pamphlet of M. Jules Cyr on that point. The symptoms of impacted gall-stones were, in some points, similar to those which might follow from tumor of the head of the pancreas, ulceration of the duodenum, cancer of the liver, and other causes, so that a determination by sounding was very desirable. He thought it absurd to say that his method was more dangerous than abdominal section. It had been shown over and over again that fine needles could be run into the brain, the heart, the intestines, without ensuing harm, and he had no doubt it was the same with the gall-bladder. There could be no doubt that this sounding loosened and set free the impacted stone, for during the ten days following the operation the urine lost its bilious color, the motions became darker, and the jaundice lessened. The subsequent symptoms of enteritis and peritonitis, he thought, were very probably due to the passage of the stone along the intestine, and possibly its lodgment in the appendix vermiformis, or near the ileo-cæcal valve.

The President asked in what condition he had found these parts on necropsy.

Dr. George Harley, in reply, explained that the necropsy had been conducted by persons who, being engaged in surgery and midwifery, had not ventured on any abdominal or intestinal examination beyond cutting out the gall-bladder, which they had forwarded to him, so that he was not able to give any further information on the condition of the abdomen and viscera. He did not deny that there was danger in such sounding as he had described, but there was danger in everything. He did not wish to advocate taking out gall-stones that were loose in the gall-bladder, as such stones, he explained, caused no symptoms. He had been asked how impaction of a stone was recognized, and he had to reply that it was by acute pain and vomiting.

Cryptorchis or Concealed Testicle.

Dr. S. R. Voorhees publishes this paper in the *Cinn. Lan. and Clinic.*, May 24, 1884 :

In presenting to you this paper, it is not so much for the purpose of enlightening your minds on this subject as it is to obtain from you an opinion on what seems to me to be a very important branch of our profession.

I have been called on lately to express an opinion to one whose testicles had never descended into the scrotum, as to whether all such persons are impotent.

In looking over the literature on impotency, I find very little on this subject that is satisfactory or conclusive. It is a fact well known to the profession that it is very difficult to get persons to reveal their physical or mental imperfections. This may be the reason why so little is found in the standard works on this subject.

This case was found by examining in the right iliac region for the cause of pain, and then he enjoined on me profound secrecy. I promised not to reveal his name, but he granted me the privilege to use the facts in his case. I promised to take his case under advisement, and report at some future time. He gave me his history as follows:

He is fifty years old, one of twins, of good family, has three brothers and two sisters married, and they all have children. He has been twice married, and never had any children. With his first wife he lived nine years, she dying of typhoid fever, and with the second he has lived now sixteen years, both being healthy women. When a boy he knew he was different from other boys, and would try to conceal the fact from them.

At about fourteen he had the whooping-cough, and one day, during a severe paroxysm of coughing, he felt something dart from the right side of his back down through the abdomen, and stop on the pubic bone. It gave him some pain, and he put his hand there and felt a hard mass the size of a hen egg. He knew it was a testicle, for he had heard a physician say that the testicles descended in that way. He now felt very proud, for he was now like the other boys. He tried to push it down into the scrotum, but it gave him pain, and he quit it. It now lies in the inguinal canal, behind and just above the pubic bone. The other testicle lies on the pubic bone, and can be pushed back into the abdominal cavity. It has been there from his earliest recollection, and is much smaller than the other. He is about five feet ten inches high, and weighs one hundred and fifty pounds; is well developed in every way, and has a strong, manly voice and moderately heavy beard. He says he enjoys coition, and performs an average amount of this pleasant duty. The semen is normal in amount, seems healthy, but microscopic examination reveals no spermatozoa.

In interviewing stock-raising men on this subject, they tell me that animals with both testicles remaining in the abdominal cavity never beget any offspring, but are anxious for copulation. Where one testicle descends into the scrotum, they will impregnate the female, and the young may be of either sex. As impotency is a valid ground for divorce, we regret that there is so little literature on this subject that we can rely on in giving testimony before a court of justice. Just how far the testicles must descend in order to allow of impregnation, has not yet been demonstrated.

As the literature on the subject of cryptorchidism is very meagre, we supplement Dr. Voorhees' interesting paper with a report by Robert W. Johnson, M. D., recently read before the Medical and Chirurgical Faculty of Maryland, as published in the *Med. News*, April 26, 1884:

Dr. Robert W. Johnson spoke of the effect this condition may have upon the mind of the man, referring to the case of Sir Astley Cooper's apprentice, who was so depressed that he finally committed suicide. There are several varieties of perverted development and abnormal position of the testicle.

1. There may be supernumerary testicles, with which we have nothing to do. 2. We have the class of monorchids, or persons having only one testicle in the scrotum, the other in the abdomen, inguinal canal, perineum, or thigh. One healthy testicle is sufficient for purposes of reproduction. 3. The cryptorchids are more rare: no testicle in scrotum on either side. These are further divided into (*a*) those who are actually devoid of testicles, or anorchids; (*b*) those whose testicles are both in the abdominal cavity or inguinal canals; and (*c*) those who are a mixture of the other classes, *i. e.* have one testicle in the abdomen and one in the canal. Marshall states that monorchids occur once in eight hundred examinations, and cryptorchids once in twelve thousand. The latter are apt to be effeminate, beardless, or only having down upon their faces, and with a shrill voice; in short, approaching hermaphroditism. This is not always the case; there may be no apparent difference between the person so affected and an ordinary man. The most singular thing of all is that there have been cases in which the wives never suspected anything to be wrong; in fact, some are extremely lascivious.

Dr. Johnson then proceeded to discuss the causes of this abnormality and its effect on the retained testicle, and concluded by saying that as a general rule the testicle was apt to suffer less in the abdomen than if in the inguinal canal. In the latter position it is much more exposed to pressure from various causes, often from an ill-fitting truss, and it appears that malignant disease often attacks the testicle in this position. Subjectively the influence is greater if the testicles are in the abdomen, as it affords comfort and reassurance to him whose scrotum is empty to find the testicles in the groin. Are cryptorchids sterile? We must distinguish between sterility and impotence; the former implies inability to beget offspring, the latter inability to have sexual intercourse. They are certainly not impotent, but are apt to be sterile, though not necessarily so. The testicle in its abnormal seat may be affected with all the ills that affect it in its normal seat, orchitis, etc.

Dr. Johnson has prepared elaborate tables, of which the following is a summary:

Total number of cases	89
Cases over 14 years old	66
No testicle found post-mortem	9
Both testicles *may* have been retained in abdomen	Uncertain
Both in inguinal canal	18
Only one in canal	8
Semen examined	15
Spermatozoa in semen	3
Number having children	10

In one case heredity was remarked, where a monorchid begat a cryptorchid child.

Dr. Johnson then related a case of his own, which he brought before the Faculty.

A young man thirty-three years of age, well developed, hairy, muscular, with deep voice and full chest. He was a perfect Lothario, and quite gloried in his amours; was once in trouble on the charge of bastardy, from which he escaped on the payment of a large sum of money. He claims to have had several children. His mother noticed that his testicles were empty in infancy. He is a sailor, and one day while pulling a rope he felt something give way on his right side, which proved to be the beginning of a hernia, for which he sought treatment. The scrotum was found to be quite empty on both sides, excepting a small part of the bowel that could be felt protruding from the canal. On the first examination Dr. Johnson was able to feel the testicles presenting, but has not been able to feel them since. He examined the semen, found it lighter colored and more transparent than normal, lacking the usual smell, and devoid of spermatozoa. He had repeated the examination on several occasions, and always with the same result.

As regards treatment, he said that if the testicle is retained in the abdomen, nothing can be done but to wait for its descent, and this may be hoped for by the end of the first year. If they are in the canal, moderate and gentle traction is beneficial. The traction should be frequently repeated, rather than continued for a long time on any one occasion. If traction is of no avail, return it to the abdominal cavity. If this cannot be done, protect it with a horse-shoe pad, and relieve the strain on the gland by an abdominal support. Keep the patient ignorant of his sterility.

Pneumotomy.

The *London Med. Times*, June 7, 1884, says: We reported last week some interesting cases in which pus-secreting cavities in the lungs have been opened and drained externally with considerable success. The record of such a bold and novel proceeding is well worthy a little special attention, for it deals with an organ which, until very lately, has been considered sacred, and beyond the reach of the surgeon's knife. It is quite true, as Mr. Gould has pointed out, that Richter, an eminent German surgeon of the last century, prophesied that the day would come when such abscesses would be so treated; but much work had to be done first, and it is not difficult to see why it has been reserved for surgeons of to-day to successfully plan and carry out Richter's idea. The discussion at the Royal Medical and Chirurgical Society followed the reading of a case in which this operation had been successfully accomplished by Mr. Gould, at the suggestion of Dr Cayley. The patient was a girl about twelve years of age, suffering from a local gangrene of the lung, of acute onset; other remedies had failed and the girl was rapidly losing ground, when it was decided to puncture the lung and endeavor to drain the cavity of its gangrenous contents. So successfully was this accomplished, that a sequestrum of gangrenous lung was evacuated, and the patient made an excellent recovery. Dr. Biss subsequently related a case in which a basic abscess, with fœtid contents, had been diagnosed, and a similar plan of treatment carried out by Mr. Marshall. The case was of a more chronic nature than the preceding, and not so easy of diagnosis. As might have been anticipated, it was less successful; but, nevertheless, the operation afforded the patient considerable relief during the short remainder of his life, and death was in no sense due to the operative measures adopted. In the discussion which followed the reading of these papers, several other cases were mentioned. Dr. Fowler gave the particulars of a very unusual case, that of a man who had accidentally swallowed a molar tooth. Disease of the lung, with formation of a cavity in the base, supervened, and threatened to prove fatal. Here was a double indication, not only to drain the abscess, but, if possible, to get out the tooth; and, though the latter object was not accomplished, in respect to the former a fair amount of success was obtained. Mr. Godlee related cases in point, as did Dr. Broadbent and Mr. Walsham. In all alike, the advantages of freely draining away the pus were manifest, even when, from the nature of the case, a permanent cure was not attainable.

The operation consists in opening the abscess cavity, and putting in a drainage tube. It is variously done, either with or without previously incising the chest wall. Thus Mr. Gould passed in a large trocar and cannula, and after withdrawing the trocar, introduced a drainage tube and then withdrew the cannula, leaving the tube in the cavity. Mr. Marshall cut down on the pleura, and after exposing it, pushed in his trocar to the depth of four inches. Mr. Godlee, in his cases, excised portions of ribs, and used a scalpel, after having explored with a hollow needle in the first instance. The amount of hæmorrhage appeared to vary, but in none of the cases was it severe, and in none was there any difficulty in arresting it. As regards the pleural cavity, while most of the speakers agreed that it would be better if it had been obliterated by adhesion, some seemed to think that the importance of its obliteration had been exaggerated. At this stage we must abstain from expressing any very decided views on the above questions. On *à priori* grounds, we should incline to use a trocar and cannula in preference to a knife, as being less likely to lead to severe hæmorrhage; and on the question whether obliteration of the pleura is essential or not, we should decidedly lean to the view that a healthy pleural cavity—could it be diagnosed—would be a strong contra-indication; for it can hardly be doubted that the accidental introduction even of small portions of gangrenous fluid into a healthy pleural cavity, would be followed by severe inflammation, and possibly by gangrenous empyema. Indeed, such a case has quite recently come within our knowledge. On the other hand, every pathologist knows that the pleura is often unaffected, even when the adjoining lung is markedly diseased.

The number of cases in which the operation has been performed is certainly very small, but it is sufficiently large to show its practicability, its freedom from undue risks, and its appropriateness in some cases. Can we deduce any conclusions from the evidence before us, either as to the class of cases, or the mode of operating? Dr. Cayley's case was one of acute gangrene, following, or rather associated with, general pyæmia, and the result was eminently satisfactory. Dr. Biss's case, like the other cases mentioned in the discussion, was of a much more chronic nature, and two physicians differently interpreted the physical signs with which it was accompanied. The inferences, it seems to us, are sufficiently obvious. An acute process—that is to say, probably a very localized one—is more likely to get permanent benefit than a chronic disease which possibly may already have spread beyond the region chiefly affected, and therefore ceased to be a local disease, such as might reasonably be expected to yield to local measures. Moreover, the uncertainty in the diagnosis is a factor of no mean importance, and Mr. Godlee's suggestion that physicians should especially devote themselves to the "fine art" of diagnosing cavities is not without force, Dr. Powell's disclaimer notwithstanding. So soon as this heroic treatment of cavities in the lungs comes to be recognized as within the domain of legitimate surgery, physicians will doubtless lay down rules for their detection, though surgeons, we hope, will not fail to educate themselves to a proper level, so as to speak, with as much authority on abscess in this organ as when it occurs elsewhere, thus rendering themselves, if not independent of the physician, at all events capable of forming an unbiased opinion on the desirability or otherwise of surgical interference. The mode of operating is one which cannot be dogmatically laid down—experience alone will decide whether a trocar or a knife shall be used. Analogies, however, come to the rescue, and point to the use of the trocar. The lung differs widely from the liver, for instance, in that it is collapsible; hence, in the middle of an operation, as the vesicles empty themselves, and as the abscess cavity contracts, the lung will tend more and more to recede from the surgeon's grasp, and hæmorrhage may thus become very difficult to arrest. Perhaps means will be found for laying bare large areas by removing portions of chest wall; but, until this is accomplished, it appears to us that cutting operations deep into the substance of the lobes had better be avoided. Mr. Gould's successful case, moreover, shows what may be accomplished by simpler and safer methods. In the case of a foreign body, this argument would apply with less force; but, even then, the preliminary use of a long fine needle for exploring purposes—as is done in the case of the kidney—seems to us desirable. Meanwhile, we can only congratulate surgeons on this further advance in their art, and trust that pneumotomy will shortly be established on a broad and secure basis.

Obstinate Supra-Orbital Neuralgia Successfully Treated by Trephining.

Before the Clinical Society of London (meeting March 28th, 1884), Mr. Arthur E. Durham described this case The patient, a man aged 33, was admitted into Guy's Hospital in October, 1882. A year previously, he had been knocked down and kicked on the forehead by a horse. An external wound was produced, extending from about an inch and a quarter to two inches or rather more above the left external angular process. The wound soon healed. Two or three months afterwards, he was thrown out of a cart, and fell upon his head. He walked home, a distance of four miles. Soon after getting into bed, he began to suffer from intense pain, extending from about the seat of the cicatrix of the old wound towards the top of his head. The pain remained more or less persistent, distracting exacerbations occurring from time to time. His condition became most pitiable; he was altogether incapacitated from attending to his business, and his general health began to suffer. He tried in succession an immense number of medicines and external applications, but without benefit. On October 23d, Mr. Durham excised about half an inch of the external branch of the supra-orbital nerve, and forcibly pulled both the proximal and distal portion. It seemed that the pain occupied the area supplied by this nerve. No relief followed this operation. On November 17th, Mr. Durham again operated, and dissected out and excised portions of other branches of the supra-orbital nerve, and some plexiform filaments of communication between these nerves and the auriculo-temporal. The pain remained as severe as ever, though the area over which it spread was more limited. The patient was now sure that the pain started from a spot in the bone very nearly beneath the cicatrix of the original wound. He was ready and anxious to submit to any operation, even at the risk of his life, to be relieved from his agony. Under these circumstances, Mr. Durham trephined the frontal bone at the spot indicated. The portion of bone removed was about an inch in diameter.

From the time of this operation to the present, the man had been entirely free from his old pain. The portion of bone removed was apparently healthy in every respect. It was not obviously thickened, nor indurated. It showed no signs of fracture, nor were there indications of suppuration, old or recent, beneath it. On subsequent examination, a small depression was found on the internal surface, close to the margin, but this was believed to be only one of those little pits or depressions commonly met with on the internal surface of the adult skull. It was possible, however, that there might have been some small papillary or other outgrowth from the dura mater, involving some highly sensitive nerve-filaments, and hence the pain. But there was no evidence of this to be obtained. There was a little bleeding from the dura mater, which was easily arrested, and the dura mater then presented a normal healthy appearance. The wound was dressed, and subsequently treated in the ordinary way. No bad symptoms of any kind supervened. The wound filled up by granulation, and the patient steadily recovered. He left the hospital on February 28th, speedily regained health and strength, and was soon able to resume his ordinary avocations. He was last heard of two days ago (some fifteen months after the operation), and reported himself as quite well and entirely free from all pain. Though the result of the treatment was so successful, Mr. Durham considered it would have been more satisfactory if the cause of the pain could have been discovered, and definitely ascertained. He thought the case was allied to those well-recognized cases classed together under the designation osteitis neuralgica. Although in almost all of such cases it was one or other of the long bones affected, and, as a rule, there was marked thickening and induration of the bone, Mr. Durham further thought that his case might be taken as illustrative of the comparative immunity with which the skull might be trephined in cases in which there was a prospect of benefit resulting from such operation—an operation the dangers of which he believed to be very much overestimated. He had brought the case forward, not with the idea of advocating for one moment the adoption of any such severe measures in ordinary cases of supraorbital neuralgia, but rather to illustrate the good that might be effected by well directed surgical interference in certain cases in which medicines internally and applications externally proved altogether useless.

Mr. Walsham mentioned a case of Mr. Langton's, where a young woman, aged 22 had constant pain for two years after a compound fracture of the skull; she was trephined, some diseased bone being found, and made a complete recovery. In a paper in the *St. Bartholomew's Hospital Reports* he had collected 700 cases of trephining, of which thirty were for neuralgia, half of them attributed to a blow, the others having no causes assigned. In two-thirds there had been no return of pain after the operation; in only five had death occurred, and was not in them due to the trephining. In the majority the cause was disease of the bone, in ten no cause was found, in two a small granulation was removed. In these cases we had to ask if the pain should be attributed to the injury; and if so, where should the trephine be applied? He quoted two cases; one was that of a young woman who had had a fall, and had a small swelling on the frontal bone, near the suture. Was the pain hysterical, or was it due to a possible exostosis on the inner plate? The other patient was an engine-driver, who had an accident to the back of his head, and suffered from constant pain in the occiput. It was difficult to say where the trephine ought to be applied.

Paracentesis of the Pericardium.

Dr. J. W. MACDONALD reports this case in the *Canada Lancet*, June, 1884:

I was first called to see the patient, a married woman, aged 30, on the evening of June 10th, 1883. She stated that, three weeks previously, she had been seized with severe pains in the joints, attended with high fever. A day or two afterwards, she complained of pain and violent beating at the heart.

Condition on June 10th. She was unable to lie down with comfort; the face was pale, anxious, and slightly œdematous; the breathing was short and panting; the heart's action tumultuous, and its movements could be perceived through her clothing. On examination of the chest, a dull area was found over the præcordial region, extending from the right edge of the sternum towards the left for about eight inches, and from the seventh intercostal space to the level of the upper margin of the second rib. A loud, distinct to-and-fro murmur at the apex, and a harsh systolic murmur at the base, were the sounds heard on auscultation. The lower lobe of the left lung, posteriorly, was very dull on percussion, and conducted the heart-sounds, so that the murmurs could be very distinctly heard in this situation. Over this area, there was also puerile respiration and increased vocal resonance. A narrow strip, giving normal sounds on percussion, extended down the side from the axilla, and divided the dull areas in the front and back of the left chest. The pulse was small, irregular, and 120 per minute. She was troubled with diarrhœa.

Blisters, iodine, and diuretics were employed, and for a few days the fluid diminished; but the symptoms became aggravated, and the dyspnœa and agony about the heart became unbearable. To use the patient's own words, she felt "as if the heart was going to burst." She could get no rest except when propped upright, and she frequently fainted. The diarrhœa continued, and, in the hope that it might promote absorption of the effusion, I made no attempt to check it.

June 18th. I resolved to operate, and was assisted by Dr. Sutherland. To decide upon a suitable situation for the opening was a great difficulty. The point generally adopted, and first recommended by Dieulafoy—viz., in the fifth intercostal space and one inch to the left of the sternum—was in this case unsuitable; for in that situation the heart-impulse could be most strongly felt. No part appeared more prominent than another, and the difficulty was further increased from the fact that the patient was nursing her child, and the breasts were consequently large. A point one inch below the nipple, and close to the lower margin of dullness, was at length fixed upon; first, because no heart-impulse could be felt there; and, secondly, because it was at the most dependent part of the pericardial cavity. The patient was placed in a semi-recumbent position; chloroform was very cautiously given, and the mamma was held up out of the way. I then made a preliminary incision through the skin, and dissected down carefully between the ribs. No impulse being felt by the finger in the wound, I pushed a moderate-sized aspirating-needle through the remaining tissues; and, feeling that I had entered the cavity, withdrew the stilette. A few drops of greenish-looking fluid escaped; but it appeared impossible to get it to run freely, even after applying the aspirator. Just as I was preparing to enlarge the opening, for the purpose of introducing a tube, the fluid began to run freely; and, on the patient drawing a full breath, it escaped in little jets. After persevering for some time, the cavity was emptied; the dull area over the heart was reduced to its normal size, and the patient, though extremely weak and inclined to faint, was very greatly relieved. The fluid withdrawn measured thirty-two ounces; was of a greenish color, resembling bile, and tended to coagulate on cooling. Shortly after the operation, she could lie down with comfort on either side, and draw a deep breath without inconvenience. The pulse fell to 100, and became more firm and regular.

June 19th. She had had a comfortable night, and felt very much better. The dulness over the lower lobe of the left lung had become less, and the respiratory murmur was returning to its natural character.

June 25th. Diarrhœa, which had for some time been a prominent symptom, had stopped. The area of heart-dulness was evidently increasing, and with it the other symptoms, which indicated an accumulation of the fluid. Iodine was applied over the præcordia, and a pill containing one-sixth of a grain of elaterium given at night.

June 27th. The elaterium produced copious watery discharges, which were followed by a marked diminution of the area of dulness, and a great improvement in the breathing.

June 30th. Her condition had so much improved as to permit her going to her home in St. John. Up to the present time (August 30th), she has continued to improve. She can walk more than half a mile without inconvenience, and has gained strength. Dr. Bayard, of St. John, who kindly examined her a few days ago, states that the fluid has not returned, but the endocardial murmur is still to be heard.

A Case of Fracture of the Pelvis.

In the *Med. Record*, Mar. 22, 1884, Dr. Edward S. Dwight thus writes: I was called on September 12, 1883, to treat a young German fresco-painter, nineteen years of age, who, while working in a store in this city, had fallen from a scaffolding for a distance of about fifteen feet, the back part of his right hip striking diagonally against a projecting shelf a little above the floor, and the ilium of that side being fractured from a point a little to the outer side of the upper extremity of the sacro-iliac symphysis, downward and outward into the great sacro-sciatic notch.

The patient was unable to stand alone; there was marked crepitation along the line of fracture; efforts to rise caused a sensation of *falling in pieces;* and the thigh could not be flexed to angle of less than 120° without great pain over the line of injury, and also over the tuberosity of the ischium. Severe pain was also felt in the groin. There was, however, no ecchymosis.

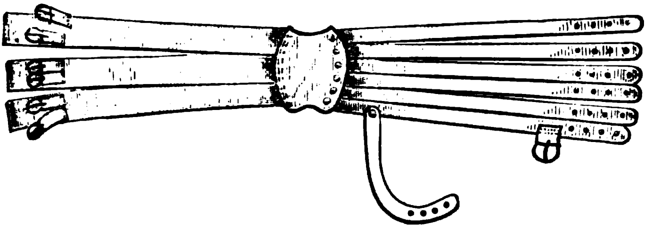
The treatment adopted was as follows: A roller bandage was first applied around the pelvis and was replaced on the following day by a thick plaster-dressing, enclosing both the pelvis and the upper half of the right thigh. The latter was slightly flexed, the front and outer side of the hip-joint being reinforced by moulded plaster splints. To prevent traction upon the ilium by the dorsal and lateral muscles of the trunk, I also added a few turns of roller bandage, which were carried over the right shoulder and under the perineum. These were tightly drawn, so as to depress the shoulder as much as possible, and were kept from slipping by means of a transverse band sewn to them in front and behind, and passing around the left side of the chest. This contrivance diminished, to a great extent, the throbbings in the injured part, which, together with numbness and tingling along the course of the great sciatic nerve, had been experienced, particularly at night.

At the end of six days, the plaster bandage having become very much loosened by the subsidence of the swelling, it was replaced by another, and tighter. This was applied over a layer of wadding and inclosed the pelvis only, the thigh being slung at an angle of 140° by a series of turns of roller which passed around, and were sewn to, the upper rim of this plaster-dressing, and which crossed each other above the thigh, where they were also sewn *together*, as well as to the plaster.

The rim of this second plaster bandage, being very thick and firm, prevented upward muscular traction; and the whole apparatus being constantly pulled downward and forward by the weight of the limb, was in consequence kept closely applied against the seat of injury.

Two weeks after the accident I slung the thigh from the neck also, carrying too a loop of strong cord from the bottom of the sling down below the instep, and allowed the patient to get out of bed and walk into the next room, which, with the aid of a crutch, he was able to do without pain.

Three weeks later this dressing was also removed, and replaced by the following apparatus in leather.



(This represents the back of the apparatus. The central pad rests on the sacrum; the six straps (right side) are all freely movable at their insertion, and are thus susceptible of being placed at any angle, so as to adapt themselves to the outline of the hip; the upper two are applied high up, so as to exert downward pressure upon the crest of the ilium; the next two pass over the great trochanter; and the two lower ones are applied low down, so as to exert upward traction upon the tuberosity of the ischium. The three broad straps upon the left side are firmly sewn to the sacral pad, so as to afford efficient counter-pressure. The strap hanging from the lowest, on the right side passes under the perineum, and is intended to aid in keeping the whole in place. A broad band of canton flannel was applied around the body before the belt was put on.)

The patient was now allowed, after a day or two, to walk about the rooms without a crutch, which he was able to do without pain, the belt acting as a moulded splint, and its lower straps preventing him from unduly raising his thigh. As the belt had a tendency to work upward, another perineal strap, upon the left side, was added with advantage.

Eight weeks after the accident the patient was able to go out of doors, and could flex his thigh to an angle of 85° without pain. Rheumatic tenderness and twinging pains at changes of the weather, persisted up to the end of October.

The upper part of the fracture consolidated first. There was no effusion of callus perceptible to the touch, but the iliac border of the sacro-iliac symphysis seems much more prominent upon the injured than upon the opposite side.

The Treatment of Gonorrhœa by Open Wire Bougies.

Mr. D. C. M'Vail thus writes to the *Brit. Med. Jour.*, March 15, 1884: Gonorrahœa is a specific catarrh of the mucous lining of the urethra—a condition in which there is rapid inflammatory cell-proliferation, and exudation of fluid from the mucous surface. These catarrhal changes necessarily begin at the anterior extremity of the urethra, and travel backwards. The fossa navicularis suffers early and severely, and backwards along the course of the passage, another part that is severely affected is the sinus of the bulb. These two parts are wider than the parts of the canal immediately behind each, and so small portions of fluid are apt to lodge more persistently there than in other parts of the canal.

In the local treatment of this affection, it is obviously very desirable to keep separate the inflamed mucous surfaces. The condition is in many respects analogous to a moist eczema intertrigo, where cure is indefinitely postponed unless the surfaces are, by suitable dressing, maintained apart. The injections in gonorrhœa that have been most successful are those that have best fulfilled this indication of treatment, and lately Mr. Cheyne's medicated bougies of cacao-butter have given further aid in this direction. To carry out more effectually the keeping separate the secreting surfaces, I have had made open wire bougies. These are of two forms.

The first form (Fig. 1) is for the effective administration of injections. The part *a* is a short length of catheter-tube. to which are soldered the wires of the open bougie, part *b*, and to the part *a* is also attached a short piece of India-rubber tube *c*. This instrument being introduced until the part *a* is well within the meatus of the urethra, the solution to be injected is introduced by a syringe, and, when quite full, the India-rubber tube *c* is compressed by a spring clip, to prevent the escape of the fluid. Within from twenty to thirty minutes, the injection will be almost wholly absorbed by the urethral walls, and then the instru-

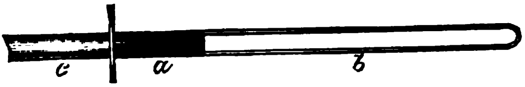


Fig. 1.

ment may be withdrawn. By this means, the injection is applied to, and kept applied to, any part of the urethra that may require it, until entirely absorbed. By the ordinary method at present in use, the contact is at best but very brief; and, as the part of the passage that is most in need of treatment is usually the most irritable, the injection is, by the instantaneous reflex contraction of that part, at once driven from it into other portions of the canal.

The second form (Fig. 2) is an open wire arrangement throughout, and is constantly worn by the patient, so that the discharge may drain freely away, and not lie in the passage and give rise to renewed secretion, as constantly goes on in the ordinary treatment at present. These instruments are well borne in the urethra, and the patient pursues his ordinary avocations while wearing the second form.

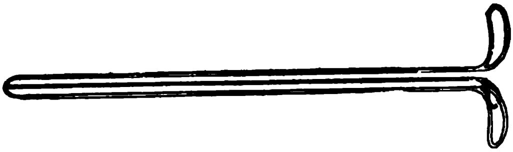


FIG. 2.

The length of the wire bougies is, of course, in proportion to the distance up the canal to which the catarrhal affection has traveled; in recent cases, an inch and a half may suffice; in older cases, it may be necessary to have it greatly longer.

A Unique Case of Conservative Surgery.

Dr. WM. JAS. SPENCE thus writes in the *London Med. Times*, April 19, 1884: Sacrificing parts for the sake of making neat-looking flaps, or in order that recognized operations may be performed, is, in my opinion, most unjustifiable. Only parts injured beyond repair should be removed, unless the result by so doing is likely to impair the usefulness of the remainder. An unseemly stump, if useful in the slightest degree, is better than none at all. When the parts are left to granulate and heal—providing there is a covering of viable tissue—the result is seldom or never disappointing; Dame Nature does her work well.

In no part of the body is conservative surgery of so much importance as in the hand. Its extreme usefulness renders the utmost caution necessary in removing parts of it.

The principle contained in the above remarks led me to attempt to save the thumb in the following case:

Annie B., aged 18, a weaver, was admitted to the Bradford Infirmary under Mr. Meade, on January 18th, 1884, for injury to right hand, caused by the cogwheels of some machinery she was attempting to stop. On admission I found the whole of the hand, to the ulnar side of an oblique line extending from the metacarpo-phalangeal joint of the index finger to the middle of the carpus, reduced to a pulp; the metacarpal bone of the index finger was also irreparably injured. In fact, only the thumb with the scaphoid, trapezium, and trapezoid bones of the carpus remained uninjured.

I was at first undecided what to do. I could not amputate at the wrist-joint, by taking an external flap from the soft parts covering the metacarpal bone of the thumb—an operation described by Dr. Dubrueil, in his work on "Operative Surgery." This would make a neat flap and a seemly-looking stump, but the uninjured thumb would be sacrificed. Secondly, I could leave the three uninjured carpal bones with the thumb attached to granulate and heal over, but this, with the other four carpal bones away, would leave a flail-like appendage of little or no use, and only in the way.

With reference to leaving the whole or part of the carpus, Dr. Bell, in his "Manual of Surgical Operations," has the followiug: "In cases of injury, where the carpus is opened, and the hand irreparably destroyed, the question arises, Where ought the amputation to be performed? To this we answer, that there appears no conceivable advantage to be gained *by leaving all or any of the carpal bones.* If successful, it would result only in the retention of a flapping joint, useless from there being no tendons to act upon it, except the tendon of the flexor carpi ulnaris . . . . " (The italics are my own.) I was reluctant to sacrifice the thumb, and adopted the following course to retain it. I removed the remaining uninjured bones of the carpus, and the whole of the injured metacarpal bones, leaving only the thumb and its metacarpal bone. I next brought the articular surface of the proximal end of the metacarpal bone into contact with the articular surface of the radius. The soft parts surrounding the thumb formed a good covering for the ends of the ulnar and radius when united by sutures with the uninjured soft parts of the forearm. The thumb was kept in position by an interrupted splint. I was very doubtful at first whether a useful attachment would result, but I reasoned that, if unsuccessful, the thumb could always be removed, later on. The parts healed kindly, and the patient, after some five weeks stay in the hospital, was discharged cured. At first there was very slight movement of the thumb, but this has gradually improved, and will, in time, I have no doubt, be considerable. The patient tells me she finds it very useful, being of great assistance in fastening her clothes, &c.

Mineral Wool as a Dressing for Wounds.

Dr. David Prince writes in the *Am. Pract.*, March, 1884: Three qualities are desirable, viz., (1) readiness to take up liquids: (2) capability of retaining them; (3) freedom from any irritant or poisonous property in themselves or in what they may be contaminated with.

In a visit to the exhibition, in Chicago last June, of the appurtenances of railroads, my attention was attracted to mineral wool as a substance which might be utilized in the treatment of wounds.

On arriving home I put the substance to the following test for its absorbent property: A column of the mineral wool, ten inches or twenty-five centimeters high, was supported on a paste-board slightly inclined; another column of inferior grade of mineral wool having greater weight was arranged alongside of it; a similar column of absorbent cotton was arranged upon the same pasteboard. They were set in a bowl of diluted ink. The top of the column of the better grade was reached in thirty minutes, while the top of the inferior heavier grade was reached in thirty-three minutes. The rise of the ink in the absorbent cotton was very slow, and at the end of two days it had reached the height of four centimeters. (One and nine-sixteenths of an inch.)

A column of patent lint was afterward tested, and in twenty-four hours the ink had only ascended thirteen millimeters. (Millimeter equals five-eighths of an inch).

This observation was made with Arnold's ink. When Thomas's ink was employed the coloring matter was completely filtered out by the mineral wool and only the colorless fluid ascended. In the observation with the mineral wool the first two and a half centimeters was passed in five seconds.

I corresponded with N. D. A. Parrott, Esq., Superintendent of the United States Mineral Wool Company, No. 22 Cortlandt street, New York, who gave me the following information in relation to this substance; "* * * In its composition, mineral wool is essentially a silicate of lime, magnesia, and alumina. Generally we have for treatment a neutral slag, or one in which the silica about equals the bases. There are also small percentages of potash and soda, but we are not positive in what combination they exist. A content of about four per cent. of sulphide of calcium renders the mineral wool unsuitable for use where contact may be had with weak acids, because, owing to the extreme tenuity of the fiber or thread, it is readily soluble in them with the evolution of sulphuretted hydrogen."

The mineral wool has now had a trial of six months as an absorbent dressing for wounds, and it has met all that was expected. Its absorbent power exceeds that of any substance which with I am acquainted, and its cost makes it as cheap as any other material.

The poorer and heavier quality, weighing about twenty-four pounds to the cubic foot, costs one cent per pound. The better and lighter quality, weighing about fourteen pounds to the cubic foot, costs three cents per pound.

It is believed that the absorbent property of mineral wool needs only to be known to bring it into general use as a surgical dressing.

It can be baked before using to drive off any suspected gaseous contamination, and it can be made the receptacle of any antiseptic substances. It has no long fibers by which it will hang together in much quantity, and it may for some uses require to be supported by cotton or tow or jute on its exterior for convenience of application.

Impacted Fracture of Femur in a Woman of Eighty-five Years; Bony Union.

In the *Med. News*, May 24, 1884, Dr. D. S. LAMB says: The healing of fractured bones in the aged is looked upon by most authorities in surgery as a result rather to be expected than not, especially if the fragments have been impacted, and have not been separated by the unwise interference of the medical attendant. Prof. Agnew supports this opinion by a case of fracture of the thigh bone at ninety-five years of age, in which bony union took place.

I take it, however, to be rare for the opportunity to be afforded to *verify* the seat and character of fracture and mode of union in patients of advanced age, by post-mortem examination; and as such an opportunity occurred to me a few months since, and the specimen has been preserved, I have thought that the clinical and post-mortem data might be of interest enough to place on record.

M. A., white, widow, had always been healthy, except that in her youth she was paralyzed in the right arm, and the paralysis became permanent. Her mind was in a condition of progressive imbecility at the time of the accident mentioned below. On the 4th of March, 1881, she attained her eighty-fifth year, and the same day, in descending the stairs, she missed the lowest step, and fell to the floor. She was at once placed in bed, but no serious trouble was suspected until two days later, when I was called. The left leg and foot were everted; there was shortening of about half an inch; no crepitus, but pain on moving the limb, and much resistance on attempting extension; there were swelling and ecchymoses in the trochanteric region. She was kept at rest as much as possible, but in the weakened condition of her mind she repeatedly forgot her injury and attempted to use the limb. On the 8th of March, Prof. Thomas B. Hood saw her, in consultation with me. Her age and mental weakness considered, neither of us expected union to take place. The better, however, to secure rest, a starch bandage was applied and morphia given in small doses. A bedsore threatened to form, but was averted. There was no appreciable rise in the temperature, and her appetite continued. In a month she sat up in bed—in a year walked without support. In the autumn of 1883 she began to lose appetite, flesh, and strength, and in October took to her bed. She died October 28th, nearly three years after the injury, and in her eighty-eighth year. Her imbecility had steadily increased.

Only a limited examination of the body was permitted, that of the head especially being forbidden. A rapid survey of the organs of the chest and abdomen showed no lesion other than a general atrophy. The left femur was removed and the surrounding soft parts examined; the arteries showed no atheroma or calcification. The bone, after maceration, presented the following appearances: Its general condition is good; length fifteen and one-quarter inches (one-half inch shortening); weight just eight ounces. The line of fracture extends diagonally through the great trochanter from the posterior-inferior to the anterior-superior angle, thence downwards a little external to the anterior inter-trochanteric line to about one inch below the lesser trochanter, thence upwards and backwards, one inch external to the posterior inter-trochanteric line, to place of beginning; the posterior portion of the neck is also impacted to the depth of one inch, the line extending from the lower outer angle of the neck upwards and backwards in front of the lesser trochanter into the digital fossa, so that while anteriorly the length of the neck is normal, posteriorly the curved margin of the head is just half an inch (instead of an inch and a-half, as it should be,) from the intertrochanteric line. The summit of the head is on a level with the upper border of the great trochanter.

Strangulated Hernia in an Infant—Operation—Recovery.

Dr. William Dobbin thus writes in the *Lancet*, May 31, 1884: On the afternoon of Thursday, February 14, 1884, I visited a dispensary patient, Jas. S——, aged six months, the child of a mill-worker residing at Ballykeel, near Banbridge. He was a rather small child, and had been born about six weeks prematurely, but appeared well-nourished. The mother stated that nothing would lie on his stomach, and that there had been no motion from the bowels since Tuesday; and the look of the child indicated suffering. When the patient was undressed that I might inspect the abdomen, I observed that the right side of the scrotum was distended by a tumor the size of a hen's egg, which, on examination, proved to be a strangulated hernia. The hernia had first appeared when the child was six weeks old, and used to come down at intervals and go back of its own accord. When it was down the child suffered from what the mother described as "colic." Failing to reduce the hernia, I ordered a linseed-meal poultice to be applied to the part so as to relax the tissues, and left, promising to return in the evening. Between six and seven I again visited the patient, accompanied by my friends, Dr. Smyth, J. P., and Dr. Tweedie, who concurred in the diagnosis. It was decided to give chloroform and carefully try the taxis, and, if not successful in effecting reduction, to operate at once. The taxis diminished the size of the tumor, and the scrotum became quite soft and lax, so that the testicle could now be distinctly felt, but there still remained a firm swelling in the groin, on which no impression could be made. I then proceeded with the operation, which I may remark was done by candle-light. The sac was reached without difficulty, but reduction being still impossible, it was opened, when a quantity of blood-stained serum escaped, and a knuckle of dark-colored intestine was exposed, which was tightly constricted at the external ring. The stricture was carefully notched and the bowel returned. The wound was closed by three silk sutures, a very narrow strip of carbolized lint having been introduced at its lower end, to serve as a drain. Carbolized lint was applied, and a pad and bandage. About an hour after the operation the little patient passed a copious motion of healthy but very offensive fæces.

Feb. 15th: Bowels opened twice; still some vomiting. 16th: Wound dressed, looking healthy; occasional vomiting; bowels opened. 17th; Wound dressed; all vomiting ceased. The sutures were removed on the fifth day, and the wound was dressed with zinc ointment. Granulation went on steadily and the wound was soundly healed in about a fortnight. A truss was applied in a few days, and the child continues in excellent health. No medicine was given at any time.

Remarks.—The only point of difficulty or obscurity in this case was the lessening of the tumor by the taxis under chloroform; but the persistence of the swelling outside the external ring, which was much more obvious when a comparison was made with the other side, showed that the hernia had not been reduced. This case is only another confirmation of the principle of operating immediately when the taxis has failed. Delay is dangerous, and tends to bring operative surgery into disrepute. Although operations for strangulated hernia in infants have been done repeatedly, they are not very common, especially in country practice; and the successful result of this case may strengthen the practitioner in urging an operation even in a laborer's cottage, where the space is limited and the surroundings are not all that could be desired.

Brittle Bones.

In the *Boston M. and S. Jour.*, May 15, 1884, Dr. DOUGLAS GRAHAM publishes the following extracts from a letter received from a patient who is afflicted with "brittle bones:"

"I will now try to tell you what I can about my numerous accidents. The whole number of breaks is eighteen. I can remember fourteen of them. Mother thinks the first was the left arm at the elbow, caused by stumbling against the stove zinc when I was eighteen months of age. Then occurred a few breakages about the location of which we are uncertain. After these came a fall from a chair, breaking my right collar-bone, which I remember very well, although then hardly three years old. At four years of age, stepped backward from a door-step, breaking my left leg between the knee and ankle. Before I was five, fell on the carpet and broke right elbow. A few months afterwards, broke right elbow again. At eight had broken each arm again at the elbow, one of these caused by a fall from a swing, and the other at school. As soon as possible after these breaks I slipped on a wet plank and broke right leg between knee and ankle. Before this was well I tried to walk a little while mother was out, and broke the same leg again at the same place. When a little past nine years of age I fell on a stone sidewalk and broke the right elbow, or rather the ends of both bones about one inch below the joint, dislocating them, and injuring the shoulder so that I can still turn my arm with the point of my elbow in front. It was not set, but makes a useful arm after all.

"I had no more accidents, except a sprain or two, until I was thirteen, when a little dog ran against me and then I fell on the pavement and broke my left collar-bone and some other bone about the shoulder. At fourteen broke one of the bones between the elbow and wrist. At eighteen fell through a hole in the sidewalk and broke the point of right elbow, and this made quite an improvement in the looks of it. At eighteen a mischievous horse chased me. I ran, and on reaching the plank-walk stepped so quickly that my left ankle was broken through the joint. That was the worst break I ever had, and I was lame a long time after it.

"These are all the accidents I can remember. Mother kept an account of the number. The summing up is:

"The right arm, broken nine times; the left arm, twice; left leg, three times; right leg, twice; right collar-bone, once; left, once. Total, eighteen.

"I used to be extremely lame and suffer very much on going to school, especially in winter when the walking was rough by reason of ice, or any inequality of surface, and any slight twist or wrench of my limbs would cause extreme pain. Since I have attained my growth I have been much better, and I have met with no accident for fourteen or fifteen years, except while in Boston I sat down before I was quite ready.

"It may be of interest to you to know that my father broke his bones fourteen times, a cousin of his twenty-one times, and the latter suffered from breaks after he was quite an old man. My father's paternal uncle was also a bone-breaker."

On the Plaster Jacket in Light Spinal Ailments.

Dr. A. J. Banker thus writes in the *American Practitioner* for April, 1884:

In the February number of the *American Practitioner*, I was much struck with the paper, by Prof. Comingore, on the use of the gypsum dressing in certain cases of sciatica.

I write now to call attention to the gypsum jacket in the treatment of those weak-backed, anemic females, so often seen by, and who are a source of such trouble to the physician—the pains of which they complain migrating to every part of the body, but being as a rule most distressing about the chest. The usual tonic treatment, beginning with arsenic, iron, strychnine, quinine, the vegetable bitters, and ending with bathing, massage, travel, cod-liver oil, and whisky, is often disappointing and generally exceedingly unsatisfactory.

The treatment I now use, and which, added to attention to the general health, tonics, etc., has yielded me in the small number of cases in which I have tried it very gratifying results, is the plaster jacket—the jacket applied just as though the troubles arose from actual disease of the vertebræ.

I fell upon this mode of treatment in this way: While in attendance on Prof. Sayre's lectures at Bellevue, I allowed myself to be used at class-meetings as the subject for the application of the jacket. I quickly detected that, on wearing the jacket for a little while, one felt a sense of relief, a feeling as if a weight had been taken off the hips—a relief, as it were, of that sensation of heaviness about the chest. Remembering this, I determined, when a weak, anemic woman, unfit for the lightest household duties, complained to me of all manner of back pains and breast pains and heart and head pains, and these didn't yield in reasonable time to the regular routine means, that I should apply a plaster jacket.

Soon after—this was in 1880—I saw a lady, aged twenty-seven years, tall, slender, thin and anemic, who had been an invalid eight years, much of the time being confined to the house, and a large part of it spent in bed or in an invalid chair. I put her through the regular orthodox treatment, but without any benefit whatever. I thought me to try a well-fitting jacket. The patient readily consented, and a regular spinal jacket, such as I would have used in a case of Pott's disease, was applied. To my great gratification, the patient began at once to improve. After the lapse of six months I removed the old and applied a new jacket. In the mean time, from being practically bed-ridden, she had gained such relief and strength that she had resumed her household duties and engaged in them in entire comfort. She was wholly relieved of the tormenting breast pains and of the overwhelming sense of lassitude—soon grew able to ride or walk at will with comfort and pleasure, and was brought back to full health in every sense.

Since that time I have treated several other cases by the same means, with like gratifying results. In a case of severe concussion of the spine, accompanied by tenderness on pressure along the vertebræ, and difficult and painful locomotion, I found the jacket to answer the same useful purpose.

A Case of Syphilitic Pyrexia.

Mr. John Ferguson reports this case in the *Journal of Cutaneous and Venereal Diseases* for May, 1884:

The subject of this short history was a young man of twenty-eight or thirty, who, up to the time of contracting syphilis, enjoyed good health. He had been for several years a student, and was remarkable for his quiet habits.

About the middle of October, 1882, he consulted me regarding a sore on his penis. He stated that when he noticed it first, a few days before he came to me, he cauterized the sore with nitric acid. For this reason, I told him I was not quite certain as to the real nature of the disease; and also, as he had been exposed on two occasions, the one six, and the other twenty-seven days previously.

In a few days, under a cleansing treatment, it became quite apparent what the real nature of the trouble was. Anti-syphilitic treatment was ordered, but he could not, or would not, take this medicine. In the course of two weeks, the glands in the groin became enlarged. At this time there was severe headache.

The cachexia became very great. There was utter loss of appetite. The feature of the case deserving special mention, however, was the continuous high temperature, which, on one occasion, reached 105.1. This symptom varied from 102.5 to that just given as the highest, falling in the morning and rising in the evening, for a period of over three weeks, when a macular, followed by a vesicular rash, came out fully over the body and head. The emaciation and sleeplessness were pronounced.

Owing to the inability of the stomach to tolerate mercurials, a solution of corrosive sublimate was given hypodermically. Under this treatment, he improved well; and, about six weeks from the date of commencing this treatment, he left the city, with strict orders to continue his medicine. This he did not do.

He gradually became deranged mentally, and, in April, 1883, was quite insane, with religious convictions and a strong suicidal tendency. He was now put on potassium iodide, one drachm, and corrosive sublimate, one-fifth grain a day. The mental condition began to improve. He was sent to the country to live on a farm, where he was fed mainly on milk, being all the time under careful watch. The iodide and mercurial were occasionally dropped for a week during the treatment.

At the present time he is almost himself again, and, were it not for a reticent manner, those who know him best would not recognize any great difference between his condition now and previous to the attack.

Shot Wounds of the Abdomen.

Dr. **Charles T. Parkes** thus concludes his address in Surgery before the late meeting of the American Medical Association (*Med. News*, May 17, 1884):

1. Hemorrhage following shot wounds of the abdomen and the intestines, is very often so severe that it cannot be safely controlled without abdominal section; it is *always* sufficient in amount to endanger life by secondary septic decomposition, which cannot be avoided in any other way than by the same treatment.

2. Extravasations of the contents of the bowel after shot injuries thereof are as certain as the existence of the wound.

3. No reliable inference as to the course of a bullet can be made from the position of the wounds of entrance and exit.

4. The wounds of entrance and exit of the bullet *should not be disturbed* in any manner except to control bleeding or remove foreign bodies when present. They need only to be covered by the general antiseptic dressing applied to the abdomen.

5. Several perforations of the intestine close together require a single resection, including all the openings. Wounds destroying the mesenteric surface of the bowel always require resection.

6. The best means of uniting the wounded intestine after resection is by the use of fine silk thread, after Lembert's method. It must include at least one-third of an inch of bowel tissue, passing through only the peritoneal and muscular coats, never including the mucous coat. The everted mucous membrane must be carefully inverted, and needs no other treatment.

7. Wounds of the stomach, small perforations, and abrasions of the intestine, can be safely trusted to the continued catgut suture.

8. Every bleeding point must be ligated or cauterized, and especial care devoted to securing an absolutely clean cavity.

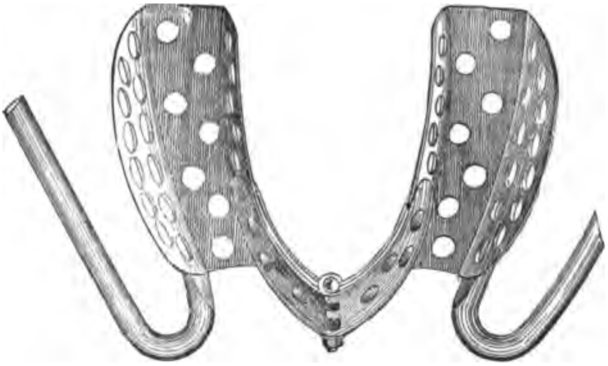
9. The best method of treating the stumps of divided mesentery is to secure them to the intestine at the site of the resection; or, better, to leave the mesenteric surface of the bowel as indicated above. Still, this requires further study.

10. *Primary abdominal section* in the midline gives the best command over the damage done, and furnishes the most feasible opening through which the proper surgical treatment of such damage can be instituted. Further, its adoption adds but little, if anything, to the peril of the injury.

11. Is not the moral effect of the assurance to the patient, that he will be placed in a condition most likely to lead to his recovery, a good substitute for the mental depression accompanying the general and popular conviction that his wounds mean certain death?

A Splint for Fractured Lower Jaw.

Dr. Charles E. Truman thus writes to the *Lancet*, April 5, 1884: My object has been to try to make a splint for the treatment of fractured lower jaw, which can be applied at once, in all cases, without having to take a plaster cast of the jaw. A semicircular trough is made of sheet metal (I prefer steel), so as loosely to fit a medium-sized jaw. The front of this trough is cut away until only the lingual surface remains; at the centre of this surface there is a hinge, that the splint may be opened or shut, to make it fit different-sized jaws. The pin of the hinge will take out, and will fix the hinge in any position. The body of the splint is pierced all over with holes, in order to hold the gutta-percha to the metal, and arms are attached to hold it firmly in place when worn, which arms can be taken off. To use the splint, make it the right size for the jaw that is to be treated, then fix the hinge. Line the inside of the metal with softened gutta-percha, press this on to the jaw so as to get an impression of the teeth in the gutta-percha. When this gutta-percha is hard, separate it from the metal, and divide it at the line of each fracture of the jaw; reunite these pieces in their right relative positions. Thus an impression of the jaw, as it was before the injury, is obtained. Replace this in the metal, and cover the whole of the outside of the



splint with a sheet of soft gutta-percha. Trim the whole up as small as possible with a hot knife. When the splint is now put into the mouth, the portions of the jaw are forced into their normal position. The splint is held firm by a bandage passing round the arms of the splint and under the chin.

"L'Homme a la Tete de Cire."

The Paris correspondent of the *Lancet* says that General **Ambert** has published in the *Souvenirs Militaires* an article under the above heading, a short account of which I send you in the hope that it will be found interesting. There is to be seen at Landrecies, in the Department of the North, an invalid artillery soldier, who was wounded in the late Franco-German War, when he was horribly mutilated by the bursting of a Prussian shell. The man's face was literally blown off, including both eyes, there being left behind some scanty remnants of the osseous and muscular systems. The skull, which is well covered with hair, was left intact, so that the man had a most hideous and ghastly appearance. This disfigurement has been completely concealed by a mask, which was made for him under the direction of the principal medical officer of Val de Grâce, in Paris, whither he had been transferred from the field ambulance. The mask was constructed by a surgeon-dentist named Delalain. It includes a false palate and a complete set of false teeth, and it is so perfect that the functions of respiration and mastication, which were necessarily imperfectly performed, are almost completely restored to their normal condition; and the voice, which was rather husky, has resumed its natural tone. The man speaks distinctly, the sense of smell, which had entirely disappeared, has returned, and he can even play the flute. He wears two false eyes, simply to fill up the cavities of the orbits, for the parts representing the eyelids in the mask are closed. In fact, the mask is so well adapted to what remains of the real face as to be considered one of the finest specimens of the prothetic art that could be devised. The man himself, whose name is Moreau, and who is in perfect health, is looked upon as a living curiosity, and travelers go a good deal out of their way to see him. His face, or rather his mask, is, of course, without any expression, but his special senses, particularly that of touch, are extremely developed, and he goes by the sobriquet of "l'homme à la tête de cire." He wears the military Cross of Honor, and delights to talk about what he went through during the war. To add to his meagre pension, he sells a small pamphlet containing a full description of his wounds, and of the apparatus that has been so skilfully devised as to render him at least presentable to his fellow creatures.

Ergotin in Vesical Paralysis.

Dr. R. B. **Hamm** reports this case in the *Med. Times*, May 17, 1884:

Mr. B., a telegraph operator, aged about 35 years, of good family history, etc., came to me suffering from paresis of the bladder, which he stated was of seventeen years' standing. On examination, I found elastic stricture of the membranous portion of the urethra and a subacute cystitis. I also learned that, through negligence and from the nature of his occupation, he very frequently allowed his bladder to be over-distended for a period of four or five hours.

He had for many years been variously treated by vesical injections and internal remedies, without effect. He was unable to void his urine, even the least portion of it, without the aid of a catheter. Thus the case came to me to be treated.

My first step was to gradually dilate the stricture until I was able to introduce a sound (No. 32, French scale), and by administering internally $\frac{1}{40}$ gr. sulphate of strychnia and $\frac{1}{4}$ gr. ext. of belladonna t. d. About every six hours I instructed him to attempt to urinate, and at least twice daily to completely empty his bladder with the catheter. At the expiration of about three weeks I could find no noticeable improvement in his condition. I then added to my former prescription ergotin 1 gr., and in several days I noticed a very marked improvement. I continued the ergotin treatment, and day by day I found him able to void more urine, until, about two months after I first began using ergotin, he could completely empty his bladder without the aid of the catheter. The subacute inflammation also disappeared after a few days of this treatment.

In a late article, Dr. Grimm advocates the nse of ergotin in paresis of the bladder. In my opinion, this case goes to support the theory advanced by him. I think that the remarkable and rapid cure effected in the case I have mentioned was due chiefly and entirely to the use of ergotin. There is no question in my mind but that it is the best remedy for subacute cystitis extant.

Cysts in Bone Tissue.

The *Brit. Med. Jour.*, May 3, 1884, says: PROFESSOR BILLROTH has never observed cysts in the cortical layer or compact tissue of bone, but always in the spongy tissue. According to Professor Billroth, the development of these cysts observes two processes which are sometimes combined. The bony and medullary tissue may undergo degeneration and break down, whether it be the spongy tissue or sarcomatous or enchondromatous tissue that is degenerated; or, as is easily conceived, a cyst can form by expansion of the bone-tissue provoked by an accumulation of fluid which, submitted to the influence of considerable pressure, exudes, and pushes, from inwards outwards, the different osseous layers. The development of the articular cavities, of the antrum of Highmore, and of the frontal sinuses, may be considered as a typical example of the early formation of cystic cavities in bone-tissue. Articular cavities are formed by the breaking down of a pre-existing dense cartilaginous tissue. Cysts are often thus developed in osteo-sarcoma present in the medullary canal. Professor Billroth regards dental cysts of the superior maxillary, formerly described as dropsy of the antrum of Highmore, as the prototype of tumors of this kind. Formerly Billroth believed these cysts to be formed by the breaking down of a sarcomatous tissue. At the present time he believes they develop in the spongy tissue above the roots of the teeth; the areolæ are distended by the fluid, and eventually merge together. An abundance of fluid is secreted in the medullary lacunæ of the inner surface of the bone, and exercises so strong a pressure that the superficial layers of bone-tissue are pressed outwards. Hydatid bone-cysts prove that bone-tissue becomes distended when submitted to the influence of an expanding fluid. It is also probable that the cysts which are formed by the breaking down of pre-existent tissue, are completed by their walls becoming distended, an exudation of fluid taking place.

Double Amputation of the Anterior Part of the Feet.

After relating two cases in the *N. Y. Med. Jour.*, May 7, 1883, Dr. Jarvis S. Wright says:

My experience with these two cases prompts me to make the following remarks, namely:

1. In performing the above-described operation, to make the dorsal flap, and then saw through the metatarsal bones and finally make the plantar flap, appeared to facilitate the removal of the damaged parts. This method of sawing the bones and making the plantar flap by cutting from within outward, is to be preferred to the usual method of making this flap by cutting from without inward.
2. In both cases it was possible, when the flaps had wholly united, to have the scar-tissue exactly in front of the stumps, and the dorsal and plantar surfaces covered with tegumentary tissues, so that the pressure of a boot during locomotion could be well sustained.
3. Leaving on the three metatarsal bases not only increased the plantar surface for pressure, but also made a better foot-lever than Lisfranc's operation. while removing the first and fifth metatarsal bases improved the appearance of the stumps, and did not in any way seem to impede the process of repair.
4. While a double operation of the kind under consideration will leave considerable disability, I am of the opinion that a single operation, leaving one foot entire and unimpaired, would leave a moderate degree of disability in locomotion.
5. In fine, it remains for me to mention the very great advantage arising from treating such stumps with open dressings, thus facilitating the removal of waste products, which are likely to penetrate and burrow under the fascia of the feet.

Traumatic Cerebral Abscess Evacuated Through the Nose: Recovery.

The *Lancet*, April 26, 1884, says that at the ordinary meeting of the Royal Academy of Medicine of Rome, held on January 27th last, Dr. Tassi presented a patient who, three months previously, had sustained a comminuted depressed fracture of the skull in the left frontal region. The patient, F. B——, from Civita Vecchia, was a robust railway engine driver. The blow had been inflicted with a sledge-hammer; and the extensive comminuted and depressed fracture was complicated with diffuse hæmatoma and very serious cerebral symptoms; loss of consciousness, high fever, paraplegia, and paresis of rectum and bladder succeeded. Antiphlogistics and counter-irritants were employed, and the propriety of trephining was discussed. Some sero-purulent fluid escaped through the centre of the wound, which admitted a probe for a considerable distance into the cranial cavity. The symptoms of cerebral irritation and compression increased, the limbs became contracted, divergent strabismus and priapism ensued, and the speech was monosyllabic and unintelligible. The seventieth day after the injury, sero-purulent fluid suddenly burst from the left nostril, and continued for four or five days, amounting in the aggregate to several ounces. As the discharge progressed, the symptoms of irritation and compression decreased. The patient first recovered self-consciousness and speech, then sensitive and motor power. In the course of fifteen days all the functions of organic life were restored to the normal standard; and, in three months from the date of injury, the patient was able to return to work.

Gangrene of Lung, Treated by Drainage: Recovery.

Dr. W. Cayley reports this case in the *Brit. Med. Jour.*, May 31, 1884: "The patent was a girl, aged 12, who was admitted into the Middlesex Hospital on January 18th. Four years before she had scarlet fever, which was followed by otorrhœa. On admission there was an acute abscess over the mastoid process on the left side, and extensive denudation of the bone about the external auditory meatus. The abscess was opened, and Mr. Gould gouged away some soft necrosed bone from the mastoid process. The patient progressed favorably till January 28th, when symptoms of pyæmia developed. She had repeated rigor, with high fever of a strongly remittent type. On February 2d, signs of pleurisy, with consolidation at the base of the left lung, appeared. On February 7th, her breath became offensive, and she began to spit up small quantities of stinking pus. On February 16th, these symptoms having continued, and the child having become extremely emaciated and prostrate, it was decided to drain the gangrenous cavity. There was now dullness over the left base as high as the angle of the scapula, and at one point some bubbling crepitation. Mr. Gould accordingly punctured the lung with a large-sized trocar and cannula, and introduced through the latter a drainage-tube. Stinking pus and a sequestrum of gangrenous lung were discharged through the tube. The child rapidly improved, and was discharged on March 27th.

Herniotomy with Unusual Sequelæ.

In the *Brit. Med. Jour.*, May 3, 1884, Mr. H. E. Spencer relates the case of a very stout lady, aged 68, who had suffered from unreduced oblique inguinal hernia for many years. Strangulation had been manifest for thirty-six hours when Mr. Spencer performed herniotomy, opening the sac, and ligaturing and removing a bunch of omentum of the size of a Jargonelle pear. Constant vomiting and suppression of urine followed, lasting seventy-two hours, without symptoms of uræmia or albuminuria. The total quantity of urine passed in this time was under two ounces. The bowels had acted on the third day. After this, all went well until the fifth evening, when the pulse rose to 120, and slight mental disturbance was observed. On the seventh, the patient was completely comatose, with tightly-contracted pupils. She died early the next morning. The temperature was sub-normal throughout. *Post mortem*, some early peritonitis was found, and the basilar artery was found to be plugged with atheromatous matter. The kidneys were healthy. The points for discussion were the associated vomiting and suppression of urine, which the author was inclined to attribute to the omental ligature; and the peculiar brain-symptons, which seemed to be the result of basilar thrombosis.

Polypus of Bladder.

Before the Manchester Medical Society (April 2, 1884): Dr. MARCH (Rochdale) read the case of an elderly man who came under his treatment on May 10th, 1883, for dysuria, especially in voiding the last drops. The urine was slightly turbid, but acid, and contained a few blood-corpuscles, a trace of albumen, and some shreddy matter, composed chiefly of large round cells crowded with nuclei. The patient was directed to wear an urinal, and took full doses of benzoate of soda with sedatives, and used morphia-suppositories. After a while, he complained of pain and tenderness on pressure in the right groin, but no tumor could be felt; there was also a good deal of aching of the penis after passing urine. On August 2d, Dr. March ascertained by the sound that there was no stone. The next day, the patient stated that his pain was gone, but that his urine was bloody. The hæmaturia lasted about a week; and then, as well as for two months afterwards, he took ergot and larch. It was now seven months since all his trouble suddenly vanished. The natural explanation was, that he suffered from a small polypus which grew at the neck of the bladder, and trailed into the urethra, causing strangury. The sound had apparently not only pushed it out of the urethra, but had altogether severed it from its attachment to the bladder.

Volvulus Cured by Effervescent Injections.

In the *Vratch*, Dr. L. Bogdanoff, of Rostov, Jaroslav Government, details, at considerable length, the case of a jeweler, aged 18, in whom a complete intestinal obstruction of twelve days' standing (caused by the formation of a volvulus in the region of the ascendant colon), was successfully removed by effervescent injections, after all other means (laxatives, ordinary enemata; Hegar's injections of three litres of water; opium, carmininativa, faradization) had utterly failed to bring any relief whatever. The effervescent enemata were made as follows: The author took two teapots, each of which contained four pints of water, and dissolved in one of them half an ounce of bicarbonate of soda, and in the other two drachms of tartaric acid; then, through a Hegar's funnel he poured out first the contents of the first teapot, and, immediately afterwards, the contents of the second. Within ten minutes the patient returned the injected fluid with an admixture of grain-like fæces. The injections were repeated during the next several days, being invariably followed by the discharge of larger fæcal lumps. A gradual full recovery was obtained.

Transplantation of Healthy Skin in Lupus.

The *Monatsch. für Prakt. Derm.* reports that Hahn has scraped out lupus-tissue and transplanted healthy skin to the fresh wound in five cases with good results. The patients were anæsthetized, and, after the scraping was finished and the bleeding arrested, which sometimes recurred after a few hours, the whole wound was covered by portions of skin about half a centimetre long and a quarter centimetre broad, the portions consisting only of cutis and epidermis. Under iodoform bandage, complete union of the transplanted portions occurred mostly in from five to eight days. A year had elapsed since the treatment of the first case, the cure being so far permanent, and no relapse having occurred.

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JOSEPH F. EDWARDS, M.D.

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I. ANATOMY, PHYSIOLOGY AND PATHOLOGY.

The Pathology of Hydramnios.

Dr. CHARLES M. GREEN thus writes in the *Boston M. and S. Jour.*, Aug. 7, 1884: The pathology of hydramnios has long engaged the attention of obstetricians, and has been the subject of much critical and polemic writing. Prof. Charpentier, in a long and exhaustive treatise,* concludes that the pathological anatomy of this affection is far from presenting the least certainty; for, he says, it is not rare to find the lesions to which hydramnios has been thought to be due in cases where there had been no trace of hydramnios. But before attempting to seek the cause of the increased quantity of amniotic fluid constituting the condition known as hydramnios, let us consider for a moment the probable origin of the fluid existing under normal circumstances. This subject is still a matter of controversy; but the opinions of those commanding the greatest weight of authority warrant the present belief that the fluid is a fœtal product, and that its sources are—

1. The capillaries of the skin.
2. The capillary network described by Jungbluth, and known as the vasa propria of the chorionic boundary-membrane of the placenta, lying just beneath the amnion, and anastomosing with the umbilical vessels.
3. The kidneys.

In accordance with this belief, the sources of an abnormal increase of the liquor amnii are to be sought in the fœtus and in the placentoal circulation: in an excessive kidney and skin-secretion of the fœtus; and in abnormal transudation from the vasa propria of the chorionic boundary-membrane above mentioned, which may remain patent beyond the time when their gradual obliteration normally begins, namely, after the first half of pregnancy. In short the cause is to be sought in mechanical disturbances of the fœtal circulation, especially of the circulation of the umbilical vessels, with which the vasa propria anastomose.†

A maternal influence in the production of the superfluous amniotic fluid is not, perhaps, to be completely excluded. Spiegelberg pointed out that from the numerous vessels of the decidua vera, after the union of this membrane with the decidua reflexa, a transudation might well take place into the amniotic cavity. Carl Braun does not accept this view, but believes that such transudations collect either between the uterus and the chorion and give rise to the so-called hydrorrhœa gravidarum, or, very rarely, between the amnion and the chorion simulating but not constituting a true hydramnios.‡ Braun, therefore, attributes the origin of the superfluous fluid solely to the mechanical disturbances of circulation above alluded to.*

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* Archives de Tocologie, Juin–Octobre 1880.

† Spiegelberg, Lehrbuch der Geburtshülfe, 2te Aufl., S. 316.

‡ Carl Braun, Lehrbuch der gesam. Gynaek., S. 79.

Some recent observations of Otto Küstner, of Jena, form an interesting and suggestive contribution to the literature of this subject, even if they do not afford any positive knowledge. In 1876 Küstner published† an account of the autopsy in a case of twins associated with a high degree of amniotic dropsy, and deduced from the post mortem appearances the probable origin of the superfluous fluid. The smaller fœtus bore only the signs of death from suffocation: the larger, however, revealed

a. Hypertrophy of the heart, of both ventricles equally;
b. Cirrhosis of the liver, which was also smaller than normal;
c. Ascites to 150 ccm. (℥v circa).

The examination was incomplete from the fact that the placenta and membranes were not seen by Küstner: in fact it was not known whether or not the diseased fœtus had lain in the hydramniotic sac; but from such facts as he had, Küstner explained the occurrence of hydramnios as follows:

The cirrhosis of the liver, which was probably the primary factor, resulted in compression of the branches of the hepatic veins, and of the portal vein. As the umbilical vein opens by one of its branches into the portal vein (the other branch constituting the ductus venosus), the portal vein may be said to have two separate places of ramification; namely, an intra-fœtal, in the abdomen of the fœtus, and an extra-fœtal, in the placenta. Compression of the portal vein in the liver would cause increased blood tension in both the intra-fœtal and extra-fœtal distribution of this vein. This increased tension could be compensated for by an increased heart action: if the tension increase slowly, the heart hypertrophies gradually and accommodates itself to the increased demand upon it. But when finally the hypertrophy no longer suffices to compensate for the increased venous tension, transudations naturally result. These transudations take place from the intra-fœtal distribution as ascites; from the extra-fœtal, as hydramnios.

In 1880 Küstner had a case of acute hydramnios which presented striking analogies to the case above mentioned, and he has published‡ the case in full with a synopsis of several cases observed by others. In this second case premature labor with twins took place in the sixth month. The fœtuses were both female and lay in separate amniotic sacs: the first sac, in which lay the larger fœtus, contained by estimate thirty pounds of fluid; the second, which did not rupture until after the birth of the first fœtus, contained but little fluid. The second fœtus presented no abnormality; the first and larger fœtus, which lay in the dropsical amnion, showed the following post-mortem appearances:

Great enlargement of the liver (apparent by abdominal palpation), its vessels uniformly enlarged, the peri-vascular spaces enlarged and partly filled with blood corpuscles, the connective tissue around the vessels not increased. Ascites to the amount of 30 to 40 ccm. Effusion in both pleural cavities. Hypertrophy of both ventricles of the heart. A number of circumscribed enlargements of both umbilical arteries. the umbilical vein presenting no changes. The single placenta weighed 410 grams (14.5 ounces), and its cotyledons were soft and œdematous. The cord belonging in the dropsical amnion had a central insertion, and was œdematous; the other cord had a velamental insertion, and was slender: both placenta and membranes were fattily degenerated to a great degree. The fluid from the dropsical membrane, in addition to the usual constituents, contained 0.07 per. cent of urea, which is more than double that which Fehling considers the normal amount.

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* Carl Braun, Lehrbuch der gesam. Gynaek., S. 604.

† Archiv für Gynäkologie, Band x., S. 134.

‡ Archiv für Gynäk., Bd. xxi., Heft 1.

Comparison of Küstner's two cases reveals certain striking similarities. In both cases the fœtuses were of like sex, but of different degrees of development: in both, the smaller fœtus was healthy, while the larger showed marked pathological changes affecting chiefly the liver and heart. In both cases the heart was hypertrophic, in the earlier case corresponding in size to that of a child four months old. In both cases there was ascites. The changes in the liver, however, were different: in the earlier case there was well-marked cirrhosis, and the liver was small, pale, and anæmic; in the latter case the liver was enlarged and presented the appearances above stated. Küstner considered, however. that both livers were examples of the same process—interstitial hepatitis—the former case being in the last stage, and the latter case in the first. From the high per cent. of urea in the liquor amnii of the second case Küstner concludes that an abnormally large amount of urine was voided by the fœtus, owing to the increased action of the hypertrophied heart.

In addition to his own cases, Küstner has collected four others of well-marked dropsy of one amnion in twins from one ovum; that is, where the placenta is single, with one chorion and two amnions. In all these cases the heart was hypertrophied, and in one case dilated. In three of the cases the liver was small and cirrhotic; in two, in what Küstner considered the hypertrophic stage of interstitial hepatitis; in the remaining case the condition of the liver was not noted.

These cases, while too few in number to prove anything, yet serve to illustrate in what way disturbances of the fœtal circulation. whether originating in the heart or in the liver, may lead to a dropsy of the amnion. The one condition necessary, it seems to me, to a serous transudation is a venous stasis, whether the prime disturbance is in the heart, in the liver, or elsewhere, it matters not, provided the blood tension becomes so great as to cause capillary transudations. It seems to me not irrational to suppose that excessive convolutions of a long fœtal cord might so retard the blood stream with undue friction as to lead to circulatory disturbances. Again, an active congestion of the fœtal kidneys, with coincidently increased arterial tension produced by a hypertrophied heart, would lead to an increased urinary secretion which, evacuated into the amnion, would increase unduly the amount of the liquor amnii: such seems to have been a factor in Küstner's second case.

In cases of twins from one ovum the placental vascular distribution is such that a considerable number of cotyledons are common to the circulation of both fœtuses, and it is possible that one fœtus may thereby gradually appropriate an undue portion of his fellow's blood: this would explain why in one-ovum twins one is usually larger than the other. It may be, too, that consequent upon the increased proportion of blood, circulatory disturbances may ensue in the larger fœtus, to compensate for which the heart may hypertrophy and thus lead the way to serous transudation. Certain it is that hydramnios occurs frequently in connection with twin pregnancy; but while in some cases of record the larger fœtus has been found to occupy the hydramniotic sac, the cases are too few to warrant the assertion that it is always so.

It will be seen, therefore, that the pathology of this affection is still involved in uncertainty; but recent observations have done much to illuminate subject, and in due time doubtless the causes of hydramnios will be as clearly demonstrated as those of other pathological conditions at one time equally obscure.

Experiments with Tubercle.

The *Lancet*, July 26, 1884, says: The doctrine of the infectivity of tubercle is mainly based upon the results of experimental inoculation, and the belief in the transference of the tubercular virus by inhalation is grounded on similar experience. It was to test the value of such observations that Dr. WARGUNIN has been conducting experiments in Prof. Rajewsky's laboratory at St. Petersburg, which are recorded in the current number of *Virchow's Archiv*. The experiments were made upon dogs, and consisted of three series. In the first series the animal was caused to inhale an atmosphere charged with products of phthisical sputum, in the second with similar material after disinfection by carbolic acid and by heat, and in the third with indifferent substances, as particles of flour, cheese, and the dried products of bronchitic sputum. In all the dogs submitted to the first process the lungs became the seat of changes having the microscopical characters of miliary tubercle, and this whether the "dust" was inhaled in the dry state or with vapor. It appeared, however, that when an animal was placed under better hygienic conditions, it could recover from the effects so produced—effects all the more striking, since tubercular affections are rare among the canine species. These results are in harmony with those previously obtained by Tappeiner and others, and at first sight would seem to confirm the doctrine of the infectivity of tubercle. But it was found that the same effects were produced in one out of three cases by the inhalation of previously disinfected sputum; and the question arose whether, after all, such effects could be attributed to specific infection rather than to merely mechanical irritation of the lung by the finely divided particles. At the same time, admitting the infective view, it was conceivable that the disinfecting process had not been thorough enough, and that the virus still remained operative. It was with a view of testing this point that the third series of experiments was undertaken. Here the material employed was destitute of any specific qualities, and yet the lungs became the seat of changes indistinguishable from those set up by the inhalation of phthisical products.

It now became necessary to ascertain whether the nodules which bore a general similarity to tubercle were really of that nature, or whether they essentially consisted in inflammatory material excited by the presence of foreign bodies. It is unfortunate that this research was mainly completed before KOCH's discovery of a bacillus was known to the observer, so that the detection of this micro-organism as a test of the tubercular nature of a morbid process could not be utilized. This fact deprives WARGUNIN's research of some of its importance, and must necessitate a repetition of these experiments. Apart, however, from the presence or absence of the bacillus, histological examination pointed to a simple inflammatory rather than a tubercular change; for the process appeared to commence as a cell growth within the smaller bronchioles, leading to their occlusion. In some parts this change was limited to the mucosa; in others it spread to the adventitia. The cells which blocked the lumen of the bronchiole were spindle-shaped, the deeper ones lying nearest the wall being spherical; but as the new tissue contained no blood-vessels, it speedily underwent fatty degeneration. It would appear, then, to be something more than a mere catarrhal process, since the cells showed a tendency to become organized; the lack of vascular supply, however, arresting the process. In the alveoli there was a large production of young cells, apparently from the epithelium, and the nodules thus formed underwent fatty degeneration. Similar nodules, but undergoing caseation more rapidly, and presenting fewer features of granulation tissue, were produced in the rabbits long after the inhalation of the products of phthisical sputum. It would seem as if in the rabbit the irritant produced changes more rapidly than in the dog. Anatomically, then, the lesions did not conform to the typical structure of tubercle; and the limitation of the process to the lungs, the absence of general symptoms, and the fact that those animals which, after the inhalation were placed in good hygienic conditions, recovered, pointed to the conclusion that the induced disease was not tuberculosis, but a local inflammatory process—a broncho-pneumonia excited by the contract of foreign solid particles.

It is interesting to turn from the perusal of these researches to the statements by Koch, in his elaborate report on the Etiology of Tuberculosis ("Mitth. aus d. Kais. Gesundh.," Bd. ii.). Koch employed for his inhalation experiments the cultures of bacilli obtained from phthisical cavities, and submitted rabbits, guinea-pigs, rats, and mice, to an atmosphere charged with these products suspended in water, the inhalation being conducted for the space of half an hour on three successive days; the animals being then placed in separate and spacious cages. Three rabbits and four guinea-pigs died within fourteen to twenty-five days, and the remainder were killed twenty-eight days after the last inhalation. In all of the rabbits and guinea-pigs the lungs contained numerous tubercles, which were also present in the liver and spleen of those that survived longest. These tubercles, when of large size, extended into the alveoli of a whole lobule, and thus formed nodules of considerable size, studded with yellowish points corresponding to the caseated alveolar contents. In fact, the larger masses reproduced the characters of caseous broncho-pneumonia, just as in the spontaneous tuberculosis of these rodents. The only differences from the above in the case of rats and mice lay in the less abundance and smaller size of the tubercular nodules. In all the instances the tubercles presented the typical character of the growth in the presence and disposition of epithelioid giant cells and of bacilli. Moreover, Koch transmitted the disease from these animals by inoculation.

From these explicit statements of Koch, we turn to Wargunin's paper in the hope that some means of reconciling the different results may there be found. Instead of this, we only meet with the assertion that the etiology of tubercle is not so simple as Koch asserts. For if it be so, says Wargunin, and if all that is necessary to develop pulmonary tubercle is exposure of the lung to the virus, especially if the protective epithelium be injured, then every bronchitic subject should be in danger of becoming phthisical. Moreover, he is not satisfied with any of the numerous inhalation experiments hitherto conducted, averring that more attention has been paid to the general macroscopical features of the lesion than to its histological characters; and that account has not been taken of the occurrence of antecedent pathological processes, or of the famous dictum of Buhl, as to caseation inducing tuberculosis. Schottelius appears to be the only observer who has regarded the effects of the inhalation experiments in the light here expressed by Wargunin—with this difference, that Schottelius considers the first effect to be on the alveoli, the bronchial change being secondary.

We have thought it well to direct attention to this paper, which is unfortunately defective in several points (and chiefly in the scanty attention paid to Koch's experiments), because the main significance of the subject rests in the solution of the question raised within it. That tubercle is transmissible by inhalation is the foremost question of all, for it lies at the root of the alleged contagiousness of phthisis. It is in this direction that the medical world must look for definite and conclusive statements from experimental pathologists, based on thorough investigations, undertaken without bias or prejudice.

*The Functions of the Cerebellum.**

The *London Med. Record*, notes that in June, 1883, Professor LUCIANI laid before the Medico-Physical Society of Florence an account of his investigations into the functions of the cerebellum. He succeeded in keeping alive for eight months a dog in which he had removed the organ almost completely. At the *post mortem* examination, the flocculi, the truncated peduncles, and the degenerated remains of the inferior vermiform process, were the only portions still to be seen. The phenomena presented by the animal are grouped in three periods. Immediately after the operation there was "incoördination" of all voluntary movements, so that the animal could not stand, walk, swim, or feed itself. Every attempt to move threw the anterior limbs into a state of tonic extension, and caused strong contraction of the extensors of the vertebral column and of the head, with tendency to fall backwards. These symptoms are ascribed by Dr. Luciani not to the loss of the cerebellum, but to the irritation arising from the injury. They disappeared in proportion as the fever, suppuration, and metastatic abscesses subsided. About two months after the operation, the second period of the phenomena began, and lasted about four months. The inco-ordination disappeared altogether in swimming, and a special form of ataxy showed itself in standing, walking, and isolated voluntary acts. The muscular movements lacked steadiness and force, and there was a constant clonic motion, but not so much as to prevent the performance even of intentional acts. When the power of walking was first regained, the animal would fall after a few steps. Later, a fall was avoided by spreading out the paws. The essential condition in the cerebellar ataxy appeared to be lack of tone and deficient muscular energy. The third period, lasting about two months, was characterized by various nutritive disturbances. There was suppurative inflammation of the middle and external ear on both sides, with catarrhal conjunctivitis, due in part, at any rate, to external irritants. Rapid and general failing in nutrition took place, so that at the end an extreme amount of marasmus was reached. After death, all the remaining portions of the nervous system were found to be perfectly normal.

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* *Riv. Sper. di Fren.*, Fasc. i. and ii., 1884; *Lo Sperim.*, July and December, 1883.

In a second dog, the right half of the cerebellum was removed in June, 1882. In October, the sigmoid gyri of the brain, containing the voluntary motor centres of the limbs, were stimulated mechanically and by electricity, and afterwards thoroughly extirpated on both sides. In May, 1883, the remaining left half of the cerebellum was removed. The stimulation of the brain gave rise to identical effects on the two sides. The extirpation of the sigmoid gyri caused a greater amount of paresis of all the limbs than occurs from the same cause in dogs having the cerebellum uninjured. The final removal of the remaining left half of the cerebellum was followed by two phases of muscular disorder, "incoördination" at first, and then cerebellar ataxy very nearly as above described. The incoördination, as the author styles the tonic contraction of certain muscles when movements were attempted, was confined to the side corresponding to the portion last removed, that is, to the extensors of the left side of the vertebral column and to the left fore-limb. The ataxy, as the unsteadiness of motion from weakness is named, extended to all the limbs. From these facts Professor Luciani draws the following, amongst other conclusions, that the cerebellum does not lie in the path of the centrifugal fibres from the brain to the spinal cord; that the incoördination is due to the irritation of the peduncles; and that the ataxy represents the disorder due to loss of the cerebellum; that the function of the cerebellum is not to coördinate movements, whether coördination be understood as an elaboration of voluntary impulses (as Flourens probably meant), or as reflex muscular adaptation (as in Ferrier's view). The fact that the removal of the motor centres of the cortex greatly increased the weakness does not show that these centres can at all replace the abolished function of the cerebellum. By way of summing up its functions, the author says that the cerebellum "is a central organ on which depends the tone and a greater part of the disposable nervous energy of the motor elements of the muscles."

A third dog was devoted to solve the question whether each half of the cerebellum exercises its functions over the corresponding half of the body or over both sides alike. The right half of the organ was removed. For the first five days, the signs of peduncular irritation were observed on the right side only; then for five days they became bilateral, and were more marked on the left side. The "ataxy" that followed these phenomena was nearly the same on both sides, except that there was a slight tendency to turn the head to the right and to raise the right fore-leg more than the left. From this it is inferred that each lateral half influences both sides of the body. Prof. Luciani thinks, therefore, that the cerebellum is an organ physiologically one; that it is not, as Ferrier holds, a complex of several organs or centres functionally distinct. [Dr. Luciani's rather unhappy use of the terms "inco-ordination" and "ataxy" has been criticised by Dr. Corso. The recent experiments of Schiff do not make the functions of the cerebellum easier to comprehend than they were before. Schiff (*Pflüger's Archiv*, Band 31 and 32, 1883) found that only the inferior third of the thickness of the organ had any discoverable influence; that perfectly symmetrical lesions of the two sides, no matter how great in extent, were altogether without effect; while even slight unilateral lesions, provided they involved the inferior third, gave rise to serious disorders.]

Pulmonary Lesions Produced by Inhalation of Phthisical Sputum and other Organic Substances.

In Virchow's *Archiv* for June, 1884, Dr. W. WARGUNIN, of St. Petersburg, publishes his investigations in this line of experimental research. After reviewing the work of Tappeiner, Klebs, Bertheau, Schottelius and others, he concluded that the tubercular nature of the primary lesions in the lungs of animals thus experimented on, was by no means clearly established by their experiments. He then sought, by following out the pathological processes in dogs from the beginning, to determine their nature.

The details of the experiments, which numbered 21, were in all respects carefully carried out. They were arranged in three categories: 1. A series of 11 dogs, in which the fresh sputum of patients suffering from well-characterized phthisis was used for inhalation, chiefly by Seigle's apparatus, but in two instances by a hand-ball apparatus; 2. A series of 3, in which the same kind of sputum, disinfected by carbolic acid and repeated boiling, was used; 3. A series of 7, consisting of 1 in which the sputum of a patient suffering from emphysema and bronchial catarrh, of 4 in which an infusion of Swiss cheese, and of 2 in which an infusion of wheat flour was employed. Two of the dogs in the first series were suffered to live, and showed no signs of illness; three ot the whole number died of exhaustion, refusing all food; the rest were killed at various periods after the more or less frequent repetition of the inhalations. The three categories gave in every respect precisely the same result. The clinical picture was in all instances the same, and afforded none of the indications of a general sickness. The anatomical condition of the lungs presented macroscopic appearances exactly resembling acute miliary tuberculosis. Tuberculosis of other organs was not encountered.

Dr. Wargunin subjected all these specimens to careful microscopical examination, and he concludes, from due consideration of the clinical facts, the results, and the histology of the processes in the lungs, that in all cases the process is one and the same, and that it cannot be regarded as tuberculosis. He regards it as a lobular pneumonia, which in many respects resembles the desquamative pneumonia of Buhl. Etiologically, it is, however, to be referred to the category of pneumonia due to foreign bodies. He found that the inflammatory process, which begins in the bronchioles, only secondarily affects the alveoli. The lung affection tended to complete restoration of the lung tissues when the animals were placed under favorable hygienic conditions. Instead of destruction of the affected portions of the lung, with the formation of cavities, as he expected, he was surprised to find in two instances, upon examination of dogs killed after six months, normal lungs. Koch's discovery of the tubercle bacillus, which was announced as the investigations of Dr. Wargunin were completed, appeared to establish facts wholly at variance with these results.

How could the fresh sputum of phthisical patients containing bacilli, and the disinfected sputum, give rise to the same results as cheese and wheat flour? The only reply to this question lies in the assumption that even the bacilli of Koch are not specific. Wargunin does not hesitate to assert to-day that Koch's discovery requires much further corroboration; that it has thus far been worked out in too superficial a way for so important a question; and that it contains in itself much that is problematical. Without denying the parasitic nature of the infectious diseases, he insists that many things must be made clear before the etiology of tuberculosis will become so simple a matter as the discovery of the tubercle bacillus of Koch would appear to make it; in other words, that the doctrine of Koch as to the cause of tuberculosis calls forth a great number of questions which are but imperfectly or not at all answered by that doctrine in its present phase.

The Action of Oxygen on the Activity of the Lower Organisms.

The *Med. Press*, July 16, 1884, tells us that Professor J. HOPPE-SEYLER, of Strasburg, recently drew attention to the above subject in the *Zeitschrift f. Physiol. Chemie*, and maintains that the activity of these organisms is in inverse proportion to the admission or penetration of oxygen. The same process takes place in a fermenting saccharine solution as in a decomposing cadaver, and as in water containing fermentation and decomposition products from animal and vegetable particles. The higher the temperature rises between 32 and 104 deg. F., and the more free the supply of fermentable material, provided there is a sufficient degree of dilution, the less efficiently does oxygen penetrate the fermenting mass. The writer conceived the idea of bringing every particle of such mass into constant contact with a large supply of oxygen. He carried the idea into practice by a series of contrivances by means of which a flask containing the decomposing material was steadily half-rotated on its axis, so that the fluid alternately washed the side of the vessel, so that when the backward rotation took place the thin layer of fluid adhering to the side of the flask was exposed to the air or oxygen, and every new semi-rotation brought into play a new layer of the fermenting mass. In a second division of the apparatus a quantity of caustic alkali, likewise in motion, took up the carbon dioxide set free. Arrangements were also made for carrying off the ammonia that resulted from the process. The experiments yielded the decided results that in the constant presence of free, indifferent oxygen, the only demonstrable products of decomposition of liquids containing albuminoids were: carbon dioxide, ammonia, and water. Even when the decomposition has been going on for weeks, neither hydrogen nor marsh gas are formed so long as oxygen reaches every part of the fermenting mass, neither are the usual products of decomposition—indol and skatol—formed; leucin and tyrosin, if at all, only transiently. These results agree with those previously published by the author, that the lower organisms, so long as they are exposed to a plentiful supply of oxygen, behave exactly as other organisms do—they absorb oxygen and give off carbonic dioxide, water, and ammonia, or substances rich in ammonia. In the absence of oxygen, all the organisms give rise to the phenomena of fermentation; whilst, however, the fungi and yeast species can live for a considerable time without oxygen, the other organisms quickly die, and the bodies of which they were composed fall a prey to the former species.

The Influence of Bodily Labor upon the Discharge of Nitrogen.

Dr. W. NORTH contributes a valuable paper on this subject to the *Brit. Med. Jour.*, July 19, 1884, which thus concludes:

My results, while they confirm those of Dr. Parkes, show that the disturbance produced by very severe labor is much more immediate and of much greater intensity than that which Dr. Parkes observed; the explanation obviously being that in his experiments the exertion imposed on the soldiers who were made the subjects was inadequate. I have further been able to show, as the result of a very prolonged experiment in which several days of complete abstinence from food were introduced, and of which it is impossible in a short abstract to give the figures, that just as in Dr. Parkes' experiment on the effect of privation of nitrogenous food, the diminution of the nitrogen stored in the system was followed by retention, *i. e.*, by a state of things in which the intake was greater than the output, so, after the disturbance of the nutrition of the body which is produced by severe labor, the immediate effect of which is to diminish the store of nitrogenous material in the system, there follows a corresponding diminution of discharge; so that the result is the same, namely, to use Dr. Parkes' own words, "an insufficient supply at one time must be subsequently compensated," whether the insufficiency be due to privation of food or to exercise. A third result of importance is this: that this storage of nitrogen is the expression of a tendency of the organism to economize its resources, which is much more constantly operative than has hitherto been supposed.

Finally, as regards the phosphates and sulphates, it has been shown that, unless the exertion be very severe, the phosphates are not increased, whilst the output of sulphates is distinctly increased in every case, the increase being in general terms proportional to that of nitrogenous material. It is a matter of regret that the total sulphur of the food was not estimated; it is known that the percentage of sulphates contained in the food was insignificant as compared with that excreted in the urine, and consequently almost all the discharge must have been a product of oxidation.

Morbid Changes in the Parotid and Submaxillary Glands in Chronic Constitutional Diseases.

In the *London Med. Record*, July 15, 1884, we read that Dr. Petr Stetzenko, of Professor N. P. Ivanovsky's laboratory, has microscopically examined (*St. Petersburg Inaugural Dissertation*, 1884) the parotid and submaxillary glands from twelve cases of various chronic diseases; namely, from five cases of pulmonary phthisis, one of diabetes, one of nephritis complicated with cancer of the stomach, one of cancer of the neck with hypostatic pneumonia, of mammary cancer, one of cirrhosis of the liver, and one of cardiac valvular affection with nephritis. The outcome of his investigations is as follows: 1. In the course of chronic constitutional disease the acinary epithelial cells of the salivary glands undergo parenchymatous inflammation—that is, atrophy and albuminous and fatty degeneration, the degree of which is proportionate to intensity and duration of constitutional disease. 2. As constantly there simultaneously occurs a chronic interstitial process, which is now circumscribed and then diffuse, and which is always accompanied by infiltration with lymphoid elements; the infiltration, however, rarely reaching any high degree. 3. An increased growth of connective tissue is observed, mainly around the glandular blood-vessels, which often undergo obliteration. 4. In nearly all cases there is found a certain amount of fatty infiltration in the interstitial connective tissue of the glands. 5. The ducts not unfrequently present catarrhal changes. Their epithelial covering shows a tendency to parenchymatous degeneration, the latter often reaching a considerable degree. 6. Gianuzzi's half-moons present less marked parenchymatous alterations than the cells which have lost their mucus. 7. The mucous acini generally remain, but in a scanty number. Sometimes they are transformed into mucous cysts. 8. There are frequently met little masses of brown pigment, and, in rare cases, granules of melanin. The author never saw amyloid degeneration of the salivary gland, or formation of salivary calculi.

The Urethral Ducts in the Female Urethra.

The *London Med. Record*, July 15, 1884, tells us that Skene, of Brooklyn, Kocks, and Kleinwächter have all described the pair of ducts found in the posterior part of the female urethra, and Kocks believes them to be the terminal portion of Gaertner's ducts. Dr. MAX SCHUELLER has made a series of dissections, and finds that the ducts are almost constant. They may be found in the fœtus, in children, in adults, and in old women eighty years of age. The orifices of the ducts lie on the wall of the urethral meatus on each side of the middle line, posteriorly; the margin of the orifices are elevated, and can thus be distinguished from the lacunæ and depressions of the mucous membrane that abound near the meatus. A sound, from the calibre of from 1 to 4 millimètres, can be passed up one of the ducts for the distance of from one-fifth of an inch to an inch. When they become inflamed there is a discharge from the meatus, without any scalding during micturition. On traverse section the ducts appear as slits; the higher up the section is made, the more irregular is their contour, and each duct ends as a gland made up of a few short tubules. There is erectile tissue under the squamous epithelium that lines the orifices of the ducts, and muscular fibres in their walls. After the climacteric all the histological elements of the ducts and the glands in which they terminate tend to wither. Dr. Max Schüller finds that the ducts are simply glandular structures, developed together with the other and smaller glands of the urethral mucous membrane. He cannot trace the ducts upwards as continuations of the ducts of Gaertner.

The Use of Peroxide of Hydrogen for the Diagnosis of Pus from Mucus.

In the *Asclepiad*, April, 1884, p. 161, Dr. B. W. RICHARDSON states that mucus, brought into contact with a solution of peroxide of hydrogen, does not affect the solution in the least, if the mucus be free from carbon-dioxide; but the smallest amount of purulent matter at once liberates the oxygen freely. Albumen does not affect the solution. Fibrin immediately sets free the oxygen. Blood-corpuscles, under some circumstances, do set free the oxygen; at other times this is not the case, the probabilities being that the red corpuscles do not, and the white do. so act. Ordinary fibrous tissue does not set free the oxygen; cellular tissue liberates it with violence. To apply these observations to the detection of pus in excretions, it is necessary to place four drachms of the solution of the peroxide, of ten volumes strength, in a test-tube, and add the suspected fluid. If there be escape of gas, it is fair to assume that pus is present. If gas do not escape, the fact that pus is not present may be accepted as certain.

II. PHYSICS, BOTANY, CHEMISTRY, AND TOXICOLOGY.

Cases of Accidental Poisoning.

I. BY ARSENIC.

Dr. EDGAR BECKIT TRUMAN reports these cases in the *Lancet*, August 2, 1884: On Dec. 5, 1882, I gave evidence at an inquest held by Mr. A. Browne, deputy district coroner for Notts, at Stapleford, near Nottingham. On Nov. 19, 1882, C. W. obtained from a shop kept by Mrs. X. a paper packet of what was believed to be magnesium carbonate. It was dispensed by Mrs. X. out of a large bottle containing the powder with a leaden tablespoon as a measure. C. W. and his wife each took a tablespoonful of the powder in milk, and shortly after suffered from vomiting and purging. The husband, after much pain and discomfort, recovered; but the wife died on the third day afterwards. A post-mortem was made, and the appearances of the viscera were those of death from an irritant poison. The case was referred to me, and on Nov. 25th I received four jars containing respectively the stomach, liver, duodenum, and rectum, a bottle with the contents of the stomach, a large wide-mouthed bottle half full of white powder, and with a leaden spoon within, and a paper packet of white powder. In the viscera and contents of the stomach I found arsenic. The white powder in the bottle gave off the usual reactions of arsenious acid and of magnesium carbonate. The relative quantities differed in different parts of the whole, four samples taken giving percentages of arsenious acid of 46, 55, 45, and 55, or an average of 50 per cent. A teaspoonful of the powder levelled up weighed twenty-one grains, so that in a teaspoonful there was about ten grains of arsenic. There was no other metal present. Lead from the spoon was blamed for the result at first. The powder in this paper was identical in character with that in the bottle. It seems that Mr. B. had kept a shop in this neighborhood, and obtained his drugs from a leading druggist in Nottingham, who in turn got his stock from London. This Mr. B. had, however, given up his shop in July, 1881, and at that time sold Mrs. X. several quantities of simple drugs, including a large bottle of magnesia. The bottle sold to Mrs. X. was proved to be the same as that from which Mrs. X. dispensed the powder to C. W. It was a bottle known to the whole village in fact. Mr. B.'s nephew gave this in evidence, and the nephew's wife said that she had given of its contents frequently to her own baby, and it had never suffered any ill effects. She said she was sure that the bottle when sold was not so full as when produced at the inquest. The bottle was not labeled. The coroner said, in the course of his remarks, that he was afraid it would remain a mystery as to how the arsenic got into the powder, for according to Mrs. X.'s evidence the contents of the bottle were just the same as when she bought the powder from Mr. B. The jury returned a verdict that the deceased died from taking arsenic accidentally mixed with magnesia, but how such mixture took place there is no evidence to show.

II. BY STRYCHNIA.

On March 18, 1884, I gave evidence at an inquest held by Dr. Housley, district coroner for Notts, at Warsop, near Mansfield. W. H—— had a daughter, the deceased, who was ten years old at the time of her death. She occasionally suffered from toothache. On January 4th—*i. e.*, six weeks before the death, finding in pain from toothache, he sent her to a druggist's shop in Warsop for some Epsom salts. Of this he gave her a teaspoonful in some hot water. She then went to bed; her father and his wife, the child's stepmother, shortly afterwards retired. About ten o'clock (time of child going to bed not given) the child began to scream. Her father went to her, and she said, "Father, father. I am dying." She complained of pains in the legs, which were stiff and extended. He carried her about the room for twenty minutes, and then put her on the bed. At intervals she screamed and asked not to be put on the ground. When sitting on the bed she said, "It's coming on again." She made "funny faces," and he thought she was "going off her head." After half an hour she vomited and seemed better, and he did not think it necessary to send for a doctor. He gave her a little whiskey and water, and occasionally after this there was twitching in the arms, body, and legs. In an hour she went to sleep. Next morning she seemed dull and drowsy. He did not think at the time that the salts were the cause of her symptoms. On February 16th the child again complained of toothache, and her father gave her a teaspoonful of the same salts in hot water. She went to lie down, and in a quarter of an hour cried out for him. He found her suffering in the same way as before. He sent for Mr. Stein of Warsop, who found the girl unconscious and almost pulseless, with the face quite pale and the lips livid. She went into a series of convulsions, which attacked the body, arms, and legs. She shortly after died. Mr. Stein made a post-mortem, and finding no appearances of death from natural causes, and indeed stating that the symptoms were those of strychnine poisoning, reserved the stomach for analysis. On February 20th I received the following articles: (1) A white jar, covered and sealed; (2) a powder in a blue paper; (3) a small bottle labelled "toothache tincture."

1. The jar contained a small human stomach, tied at both ends, weighing 18½ oz., with the contents, which latter weighed 8½ oz. The mucous membrane was natural. The contents consisted of a brown thick fluid, with an acid reaction, and of some lumps of cooked flesh resembling ham, and some fat and potato. I examined these contents for magnesium sulphate, finding both base and acid present. I then took half the stomach and half the contents, making an acid watery extract, which I exhausted with alcohol, the alcoholic extract dissolved in water being treated by a well-known method, alternately with chloroform, ammonia and sulphuric acid. Finally I obtained from the half of the stomach and contents a pure white crystalline evaporate from alcoholic solution, weighing .007 of a gramme—i. e., in grains, for the whole stomach, .007×2×15=.21 grain. I tested this alkaloid in the usual way for strychnia. The solution in acetic acid was in-

tensely bitter to the taste, gave a yellow precipitate with chromate of potassium, and the solid showed the violet reaction with manganese binoxide and sulphuric acid. Nitric acid did not redden the solid, showing absence of brucia. To show that this substance was altogether strychnia, and not a mixture with some other alkaloid, I made use of two methods, chemical and physiological. The color, reaction, and bitterness to the taste I found most marked to .00001 of a gramme, and the physiological test I used as follows. Frogs I found it impossible to get, and instead thereof made use of toads, just then spawning and easily obtained. I took male toads of equal size, and made two solutions, one of crystalline evaporate and one of a pure strychnia from Morson's, of the same strength. Into toad A I injected by the hypodermic syringe .005 gramme of the alkaloid from the stomach; into toad B .005 gramme of pure strychnia. A had first marked tetanic spasm in eighteen minutes; B in twenty minutes. A died in six hours twenty-three minutes; B in six hours thirty-three minutes. A third toad I put unwounded into a vessel containg a grain of acetate of strychnia. He had no symptoms for twenty-seven hours and a half, but died of tetanus in forty-six hours and a half, showing how much longer the thickly tuberculated skin of the toad resists the entrance of a solution of strychnia than in the case of the frog. The dose, .0001 grain, recommended to produce tetanus in the frog, by a solution in which it is placed unwounded, had not the least effect on the toad for seventy-two hours, when I removed it, and it showed no sign whatever of tetanus afterwards.

2. The blue paper packet contained a white crystalline powder, containing 355 grains. This was what the father had given doses of to the child, and was supposed to be Epsom salts. There was no label, either of the substance or of the druggist's name. I analyzed this substance for oxalic acid and for zinc, with a negative result. I obtained the usual evidence of magnesium and of sulphuric acid. I found and separated, by of course a much simpler proceeding than in No. 1, strychnia in the alkaloidal state, and amounting to 3 per cent. of the whole, but not uniformly distributed. A teaspoonful levelled up weighed 52½ grains; so that it would contain about one and a half grains of strychnia, and the half teaspoonful about three-fourths of a grain.

3. The "toothache tincture" contained no strychnia, and consisted of a solution of camphor in chloroform. It had been used by the child.

The stepmother deposed that her husband had three children, but none by her. On two occasions, by his desire, she bought strychnia for the purpose of poisoning rats (the father was a gamekeeper); but said that the last quantity, after what was necessary, was thrown into the fire; whilst the father said he distinctly remembered throwing it into a stream. After some little pressure the stepmother admitted that the child's life was insured. Two of the neighbors deposed that in January of this year each of them had bought Epsom salts at the druggist's where the deceased child had purchased some. In one case the witness gave her daughter, aged ten, as much as would lie on a shilling, and the girl suffered from aching and stiffness of the arms and legs and twitchings. Witness threw away the remainder of her salts when she heard of the death of deceased. In the other case the witness had taken a teaspoonful of the salts herself, had twitchings of the arms and legs, but vomited and soon recovered. The druggist who sold the salts deposed that he had no strychnia in the solid state, and had never had it in stock. The bulk of Epsom salts from which he supplied deceased came from a wholesale druggist's in London. The coroner reviewed the evidence at some length, pointing out that the questions for the jury to consider were: Whether the deceased died from poisoning by strychnia; and, if so, how was it mixed with the salts? Was it mixed willfully and intentionally? Were the salts contaminated by the father, the local, or the London druggist? He thought that the wisest course would be to return an open verdict, leaving any future action to be taken by the police, if they obtained sufficient information. The jury's verdict was: "That deceased died from strychnia poisoning; but there was not sufficient evidence to show how the poison became mixed with the salts."

Remarks.—I have brought forward these two cases, not for their pathological or chemical aspects, but on a medico-legal account. They are similar, inasmuch as it was impossible to trace how, when, and by whom the mixture of poison and medicine took place. It seems to me to offer a new and facile field for the poisoner of the future. If A buys a medicine of B and a poison of C, and mixes them, who is to say whether A did so or whether B did not sell the medicine adulterated with the poison? Of course the greater number of hands the substance bought passes through the greater the difficulty of finding out the person who mixed with it a poison. In the first case the powder which killed Mrs. W—— was bought of Mrs. X——, who bought it of Mr. B——, who bought it of a druggist in Nottingham, who would buy of some London house. In the second case the salts were bought of a local man who bought of a London house. It would have been better in the second case if the police had seized the bulk from which the salts were dispensed by the local druggist.

The cases also were similar in respect to the varying strength of samples taken from different parts of the whole; looking indeed as if the mixture were an accidental one. The verdict of the jury was in each case in almost identical words, to the effect that death was caused by the poisoned medicine, but that there was no evidence to show how the mixture had been effected. My theory with regard to the first case is as follows: Mr. B—— had been in the habit of keeping a little arsenic for the purpose of sheep-washing; this fact he kept in the background as much as possible, and there was no arsenic or indeed any drug on his premises at the time of the inquest. He probably or possibly kept this arsenic in a paper without a label, and when the necessity for using it had passed by he would push it into a corner of a cupboard and forget all about it. When transferring some of his stock to Mrs. X——, he would turn out this white powder in a paper; not labeled, he would imagine it was an additional quantity of what it so much resembled—viz., the magnesium carbonate—and would put it into the bottle containing his stock of the same. When Mr. B——'s nephew's wife gave her baby some magnesia out of this bottle, it would be before the transfer to Mrs. X—— took place. As to her saying that the bottle was fuller when produced at the inquest than when sold to Mrs. X——, that was possibly due to her imagination. The second case presents much more difficulty. The husband and wife, when examined separately, differed as to the mode in which the residual strychnia was disposed of, and it may perhaps be considered singular that the father, having poisoned rats so frequently, and most likely seen them in the convulsive stage, should have had no suspicion of the real state of things after the first dose. As to the whole teaspoonful being recovered from and the half proving fatal, in the first place the vomiting in the first instance would diminish the amount of poison absorbed, and, in the second place, too great reliance cannot be placed on loose measurements; the whole teaspoonful may have been a small one, and the half a large one. If the packet bought was really a two-ounce one, there must have been, after the teaspoonful and a half had been takan, an ounce unaccounted for; but as 355 grains (sent to me) +50+25 (a teaspoonful and a half)=430, the packet may have been an ounce only. As to the depositions of the two neighbors that they had suffered from twitching after taking salts purchased from the same druggist, we may perhaps attribute this, in the absence of any but their own testimony, to vivid imaginations acting posteriorly to the fact of the girl's death. I was told that two samples of salts, bought from the same druggist, had been sent for analysis to a chemist, and with negative results; but this was not put in evidence.

A Case of Rattlesnake Bite.

Dr Peyton Turner, reports the following case in the *Texas Courier Record of Medicine* for August, 1884.

A rattlesnake had crawled into the school-house and secreted itself behind the door, which had been left open. Little Nolan, twelve years old, son of Mr. O. X. Ginn, in playing with other pupils, happened to run behind the door, stepped on the snake, which was coiled, and was bitten on the posterior aspect of the leg, a little above the ankle joint. The fangs seemed to be about an inch apart, one of which entered over the posterior tibal artery. The blood spirted, and he ran to his home, about two hundred yards, and made known at once his misfortune to his parents. His father, who, by-the-way, was equal to the emergency, realized the gravity of the situation, and at once applied two bandages above the wounds; also gave plenty of whisky, caught a chicken, ripped it open, and applied it to the wounds. I had heard of this chicken business in snake-bites, not infrequently, and was disposed to look upon such a procedure with great distrust. I arrived in about three-quarters of an hour after he was bitten, and being anxious to demonstrate the inutility of the chicken business, knowing it would do no harm, I scarified the wounds freely and applied another chicken. The latter did not only turn partly green, with peeling off at the epidermis, but presently it would smell so offensive as to require removal, and a fresh chicken substituted every half hour, till six or seven were used.

As soon as practicable I used an intra-venous injection of aqua ammonia into the median cephalic vein, and almost as soon as the needle of syringe pierced the skin the latter turned green, for a space of about half an inch in diameter, around the puncture, even before I had time to push the medicine into the vein. At the outer limit of green spot an ecchymosis soon formed, and was soon studded with a number of blebs. I also opened three veins, but could not get a drop of blood; it would not flow.

Nervous prostration was great, and collapse seemed complete before he became alcoholized. Whisky was given till alcohol coma was produced. The heart's action was so feeble and rapid that I deemed it advisable to give hypodermic digitalis, 3 gtts. (equal to ♏. iss), of the f. e., into the cellular tissue; this was, in like manner, followed by discoloration, at once forming an oblong ecchymosis of two inches in length. He vomited a number of times during the day, and the digitalis injection was used once more, in the afternoon. Just before night he aroused and called for lemonade, which was given him. By this time the limb was swollen above the knee, the skin very tense and phlyctenulæ, filled with bloody serum, had formed over dorsum of foot, and his temperature was 97½°; skin as cold as marble, respiration slow and hesitating, with profuse perspiration. I now thought an indication for belladonna existed, which I administered in 5 gtt. doses, and gave directions to repeat the dose, through the night, if necessary. The pulse was now extinct; the rapidity of the heart's action could be counted only by putting the ear over the heart, when it was found to be 155 beats per minute. Gave another hypodermic digitalis.

Next morning, 27th June.—Patient had vomited several times through the night, also had three motions from bowels. No perceptible change in heart's action and depression. I now knew that the cardiac pulsations must be reduced, or death would claim its victim, so I again resorted to digitalis hypodermically, but this time I gave ten gtts. of fluid extract. He was now suffering great pain in the limb. and was apparently exhausted. I now gave tincture opii, 15 gtts. Three hours later, reaction seemed to commence; his temperature had risen to nearly the normal, but the swelling had now pervaded the whole limb, and was greenish and dusky in appearance. I used ammonia, whisky and milk moderately during the day, and enjoined perfect quietude, to facilitate the action of the digitalis, which I was afraid would be counteracted, to some extent, by the whisky and ammonia. Later in the evening the radial pulse could be counted, and was found to be 130, and had some volume. He seemed stronger, and, upon the whole, more favorable for recovery. Directed the laudanum to be given, through the night, as often as was necessary to produce quietude and relieve pain.

28th.—Passed a good night; some vomiting of bile, mucus, etc. He said it also tasted very sour; a dose of pepsin, with several grains of bismuth, put an end to this gastric trouble; pulse 120. The swelling of limb was now complete; the perineum and genitals were involved, and the swelling and discoloration had extended over the abdomen as far as the umbilicus, and on the right side as high as the axilla, while the other side it partly encircled, extending back as far as the vertebræ, was of a green color, and the lymphatic glands were enlarged and tender, with an obtuse pain in right side. At a point near the bite the swelling seemed to subside slightly. Temperature nearly normal.

29th, A. M.—Pulse 100 and quite strong. Directed three seidlitz powders; they failed to act; now tried podophyllin; result, several motions and vomiting bile: P. M.—Condition improving.

30th A. M.—Pulse 100; rested well through the night; temperature normal, and the general swelling diminishing.

July 1st, P. M—Pulse 120, temperature 101°; bowels regular; has some appetite.

2d, A. M.—Pulse 108, temperature 100°. There was considerable epistaxis this forenoon, and the blood does coagulate, but imperfectly. A black clot soon formed and settled to bottom, while the serum and a great many red globules do not take any part in this clotting. He said the blood, in streaming over his lip, caused it to turn sore. In the healthy subject the clot containing corpuscle and febrin separates from the serum in from ten to twelve hours. In this case it was only a few minutes. Swelling continues to diminish. P. M.—Pulse about 120, temperature 100½°; general condition seems better, but has had two profuse hemorrhages from nose. Had to plug the right nostril with dossil of cotton soaked in tannic acid slightly carbolized.

3d.—Pulse 114, temperature 99⅗°: P. M.—Pulse 112, temperature 100½°.

4th, P. M.—Pulse 120, temperature 100½°.

6th.—Condition much better; prescribed iron and nux vomica, with tonic doses of quinine. The ammonia injection caused a circular ulcer; dressed it with iodoform ointment. One of the digitalis injections caused an indurated swelling; applied tincture iodine to it, and also to the enlarged glands.

8th.—Able to be up. Some swelling yet in foot, excepting which he is comparatively well. 14th.—About well.

The Electric Light for Shops.

The *Chemist and Druggist*, July 15, 1884, says: The daily papers, when free from the pressure of a heavy parliamentary report, are liable to break out occasionally in paragraphs which intimate that the problem of electric lighting by means of batteries, at a cost of something below nothing, has been finally settled. But nevertheless the prudent housekeeper or tradesman maintains his connection with the gas company's mains, and decides to continue a while longer to depend on the well-tried hydrocarbon for his illumination. That electricity will provide the light of the future there can hardly be a reasonable doubt; the accomplishments of the last five or ten years suggest almost immeasurable hopes, and nothing is more likely than that some simple, economical, and easily managed battery may be discovered whereby light may be yielded at a cheaper rate, and in an easily controllable condition. We have been several times asked how to install a small electric light as an attraction, and without the use of an engine and a dynamo machine. This can, of course, be done; but it had better be understood that under present conditions, and on a small scale, the amusement is an expensive and a somewhat troublesome one. Still, for a shop window, it is likely that in some cases the attraction would be of some value; it is for the experimenter himself to judge whether the game would be worth the candle, or rather, whether the candle would be worth the cost.

Electric incandescent lamps of from 1 to 20 candle-power are obtainable for 5s. each; a 5 c.-p. lamp would be found a suitable power for a shop window as a rule. The amateur, and even the practiced experimenter, must be prepared to submit to the destruction of a considerable proportion of these lamps, owing to the employment of a too great force or to defective manufacture. The makers estimate the lamp to bear a thousand hours' employment; but we have not found the address of any who will guarantee this performance, and the small lamps are much more liable to accidents than the larger ones, such as are used with the dynamo machines.

A battery with wires to the lamp or lamps is all that is necessary to complete the installation. We have had no experience with any of the lately introduced forms of batteries, but of the older-fashioned ones we have experimented with Grove's, Bunsen's, the Bichromate, and Leclanche's. Of these the last-named is almost useless, owing to the rapidity with which it exhausts itself.

Perhaps, on the whole, the bichromate battery answers the best in proportion to its cost, but, as will be noticed, it can only be worked for an hour or two. For each working of the light a fresh charge of acid is necessary, the cost to a chemist for a 5 c.-p. lamp being something like 1s. or less, besides trouble. A small number of additional cells will suffice for extra lamps. Thus, if a 6-cell Grove's battery is required for a 5 c.-p. lamp, two more cells will probably serve to light up another lamp of similar power, and this, by means of wires, can be at work in any other part of the establishment.

We append a few working notes on the several batteries named:

Grove's battery consists of an outer containing jar, usually of flat stoneware, which contains a second jar of unglazed earthenware, known as a porous cell or pot. The outer jar is charged with dilute sulphuric acid (usually 1:10) in which is immersed a zinc plate. The porous cell contains a sheet of platinum foil in strong nitric acid. Clamps made for the purpose are fixed on to the zinc or platinum plates to which are attached wires, and the battery is then ready for use.

This battery will last from five to six hours in constant action, and is almost the strongest battery known, but owing to the high price of platinum, its first cost is very great, about 8s. to 10s. a cell (large size).

The electro-motive force is about 1-8 volts, and a good five candle-power incandescent lamp requiring an electro-motive force of say ten volts, would therefore require six of these cells to light it: 1-8x6=10-8 volts.

In joining several cells together for our lamp, they should be coupled up in series, that is, zinc of one to platinum of the next, and so on, leaving one end of the free wire of the first cell attached to a platinum, and the free wire of the last to a zinc, or *vice versâ*. In all powerful batteries where zinc and acids are used, the zinc will, from time to time, require amalgamating to prevent the action of the acid upon it. This is done by immersing it for about three minutes in acid of the strength required in the battery. It is then taken out, and mercury is poured on both sides and rubbed on with a rag or brush. If the plate is well covered with mercury, the acid will have no action upon it. This should be done frequently, or as soon as black marks appear on the sides of the plate, and when the battery is not in use the zincs should always be withdrawn.

Bunsen's battery is similar to Grove's, but carbon is substituted for platinum, which, though it considerably reduces the first cost (from 5s. to 6s. per cell, large size) also makes the cell much more troublesome to work and more expensive in the end. This battery is usually of round form. It is a little stronger than Grove's, the electro-motive force being 1-9 volts, but for a five candle-power lamp of ten volts, six of these also had better be used. This also will last from five to six hours in constant action, but it will be found very troublesome.

Another form of battery is the *Bichromate*, which, unlike the two previously-named, is a single fluid cell, consisting of a zinc plate between two carbon plates, immersed in a saturated solution of bichromate of potash in water to which is added very slowly 15 per cent. of sulphuric acid.

A large size bichromate cell will only last about two hours, and this renders it rather troublesome. It is usually sold in bottle form with a lifting arrangement for the zinc to be lifted out of the solution when not in use—which should always be done.

The electro-motive force is 1·7 volts, and therefore six or seven cells would have to be used. It is always advisable to add one battery to the required number—as it not only greatly increases the brilliancy of the light, but also makes up for any defect in connection, etc.

Some Remarks about the Detection of Sugar in Urine by Means of Fehling's Solution.

The following abstract of a paper by G. BUCHNER, of Munich, appears in the *Pharmaceutical Record*, Aug. 15, 1884:

However exactly the qualitative and quantitative determination of sugar in urine generally succeeds with Fehling's solution, sometimes urines (particularly with lesser percentages of sugar, viz., 0.25, 0.50, 1.0 per cent.,) are presented for investigation which exhibit peculiarities baffling the non-expert. I often meet a difficulty mentioned by various authors, i. e., that the cuprous oxide does not precipitate, but remains in solution, and therefore a quantitative determination with Fehling's solution is not practicable in this way.

The determination of sugar is very easy and unfailing, even in urines with small quantities of sugar, by the following *modus operandi:*

A diabetic urine which by heating with Fehling's solution only yields an opalescent yellowish-red solution, but no cuprous oxide, upon adding solution of sulphate of copper (1 : 10) in excess and boiling separates a grayish-green precipitate; filtered after cooling, the filtrate will show with liq. potassæ or Fehling's solution an azure-blue color, and heating will produce the finest sugar reaction in precipitating yellowish-red cuprose oxide—even then only when small quantities of sugar are present. In all cases which at other times by the use of proposed modifications—for instance, successive addition of alkaline solution of sulphate of copper (the previous separation of kreatinine with chloride of zinc is roundabout and dilatory)—resulted undecided, I thus obtained the most pronounced reaction. The question arising upon what this proceeding is based, the following answer may be given: First, by the previous treatment with sulphate of copper the uric acid (as well as phosphoric acid) is separated as urate of copper. A watery solution of uric acid gives with sulphate of copper a grayish-green turbidity, and by boiling urate of copper is precipitated. Secondly, and principally, the keratinine which retards the reaction combines with copper and is saturated by entering with it into a double combination, and remains thus without further influence upon the reduction of oxide of copper by sugar in alkaline solution. If to a solution of kreatinine sulphate-of-copper is added drop by drop until colored slightly blue, the liquid upon heating will pass from green to pale green and become colorless; and if the addition of sulphate of copper is now continued until the solution, when warm, remains green, liq. potassæ, added after cooling, causes a bluish-white precipitate, which, heating, will dissolve to a light yellow liquid. If a small amount of grape-sugar is added to a solution of kreatinine, and the same treated as before—that is, saturated in the warmth with solution of sulphate of copper, and after cooling rochelle salt and liq. potassæ are added—it will upon further heating turn yellow, then pass from turbidity into green, and separate at last fine yellowish-red cuprous oxide. A solution of kreatinine mixed with a solution of grape-sugar, and without previons treatment with sulphate of copper, separates no cuprous oxide with Fehling's solution even in large excess, but yields a dark brown-red solution.

To test the susceptibility of this procedure, I made the following experiment:

(1) A dilute solution of kreatinine was mixed with ten drops of a one-per-cent. solution of grape-sugar (about 0.005 grape-sugar); a c.c. Fehling's solution added and heated, it became light yellow, and no separation of cuprous oxide took place, not even after addition of more Fehling's solution.

(2) The same quantity (about 5 c.c.) dilute solution of kreatinine was mixed with grape-sugar solution containing about 0.005 grape-sugar, then heated with sulphate-of-copper solution until a pronounced green color remained; when, after cooling. rochelle salt and liq. potassæ were added, an azure-blue liquid resulted, out of which, upon heating, fine reddish-yellow cuprous oxide separated.

If doubtful results have been obtained with Fehling's solution, proceed as follows: To 10 c.c. urine (free from albumen) add 3 to 5 c.c. solution of sulphate of copper (1 : 10), and heat to ebullition. Filter the cold liquid, and to the green-colored filtrate (containing an excess of $CuSO_4$) add liq. potassæ and rochelle salt until the appearing precipitate has dissolved, making an azure-blue liquid; heat now to about 70° C., and the smallest amount of sugar will be indicated by the separation of fine red cuprous oxide. If no reaction appears in this way, the urine may with certainty be declared free from sugar.

Ptomaines.

From the *London Med. Record* Aug. 15, 1884, we learn that Professors V. K. ANREP and A. V. POEHL, of St. Petersburg, sum up (*Vestnik Sudebnoi Meditziny ee Obshtchestvennoi Hyghieny* [*The Herald of Forensic Medicine and Social Hygiene*] 1884, vol. 1, pp. 1–29) an interesting article based on their own investigations, and a full review of the literature, as follows:

1. Putrefaction, fermentation, and other as yet indefinable alterations of albuminous substances, are accompanied by the generation of alkaloid-like bodies, ptomaines.

2. The number of ptomaines is very great, and their chemical and poisonous properties are very different.

3. There are known fixed and volatile, fluid and solid, amorphous and crystalline ptomaines. It is interesting to note that all fluid ptomaines, like all fluid vegetable alkaloids (with the exception of pilocarpine), do not contain oxygen.

4. Almost all ptomaines change red litmus to blue, and syrup of violets to green.

5. Like alkaloids, they form salts with acids, the formation proceeding without giving off water (again similarly to alkaloids and ammonia).

6. In regard to their solubility, ptomaines behave very differently; some of them being soluble in water, others in ether, alcohol, benzine, chloroform, and amyl-alcohol. Ptomaine-salts are easily soluble in water.

7. Some ptomaines are tasteless and colorless; others possess an intense bitter taste or aromatic sweetish odor; and others again evolve a cadaveric odor, or one

resembling coniine or nicotine. When treated with acids, they sometimes emit a pleasant floral odor.

8. Ptomaines obtained from rye-meal which has been subjected to fermentation, give the same reactions as the ptomaines, or any other extractions. These reactions are as follows: (*a*) A solution of iodide of potassium with biniodide of mercury produces a whitish precipitate in a ptomaine-solution slightly acidulated with hydrochloric acid. Twenty-fours later, microscopic examination detects that the precipitate consists of minute prismatic crystals. (*b*) A solution of iodide of potassium, with iodine being added to an acidulated ptomaine-solution, produces either a flocculent or a finely granular red-brown precipitate, which is insoluble in diluted hydrochloric acid. (*c*) A solution of phospho-molybdenate of soda gives a yellowish amorphous precipitate which is insoluble in diluted nitric acid, but, on the addition of liquor ammoniæ in excess, at first takes a blue-green color and afterwards dissolves, giving either a bright blue or a green solution. The blue color is mostly observed during the first stages of putrid decomposition. The original precipitate produced by phospho-molybdenate of soda, on being heated, assumes a green color, without any addition of ammonia. (*d*) Phospho-wolframic acid (prepared after Scheibler's method) gives whitish or greyish precipitates which are insoluble in diluted sulphuric and hydrochloric acids, but easily soluble in ammonia. (*e*) A solution of tannic acid gives a white precipitate; the latter does not appear if tartaric acid be present. (*g*) A solution of iodide of potassium with iodide of bismuth in presence of diluted sulphuric acid, gives a yellowish precipitate, part of which passes into solution on heating, and reappears again on evolving. (*h*) A solution of iodide of potassium with iodide of cadmium sometimes produces precipitates which are soluble in the excess of the reagent, and which, by degrees, assume a crystalline structure. This reagent precipitates the products of the first stages of putrefaction; later on in the course of the latter, there appear some product which are not precipitated by iodide of potassium and cadmium. (*i*) In some cases a solution of corrosive sublimate gives precipitates which gradually take a crystallinic structure; in other cases, however, ptomaines are quite indifferent to their reagent. (*j*) A solution of chloride of platinum gives, with some of ptomaines, precipitates which are usually crystalline and soluble in hydrochloric acid, and consist of a double salt (chloride of platinum *plus* chloride of ptomaine). Similar double salts are given by chlorides of gold and zinc.

9. Ptomaines are optically inactive bodies.

10. The color-reactions of ptomaines are as various as those of vegetable alkaloids.

11. In the course of a forensic chemical examination, it is advisable to discard the use of sulphuric acid, and to use tartaric acid. The further treatment is to be performed after Dragendorff's method.

III. MATERIA MEDICA AND THERAPEUTICS.

On the Chloride of Gold and Sodium in Some Nervous Affections.

In the *Med. News*, August 2, 1884, Dr. ROBERTS BARTHOLOW, writes as follows: In that curious accumulation of mediæval learning, *The Anatomy of Melancholy*, gold is mentioned as a valuable remedy in the treatment of that affection. The eccentric author got his notions from the alchemists, and the physicians of the chemical school then rising into prominence. From the earliest times, gems and precious stones, and, to a less degree, the noble metals, were supposed "to free the mind, and mend the manners." Thus Chaucer, who died in the year 1400, æt. 72, in his Canterbury Tales, describes in the Prologue "a doctour of phisike," who

> "Knew the cause of every maladie,
> Were it of cold, or hote, or moist, or drie,
> And where engendred, and of what humour,
> He was a veray parfite practisour."
>
> . . . . .
>
> "And yet he was but esy of dispence!
> He kepte that he wan in the pestilence,
> For gold in phisike is a cordial;
> Therefore he loved gold in special."

The Arabian physicians, afterwards the Italians, and later still the Montpellier school, recognized the virtues of gold in certain mental and nervous diseases. The best account of gold from the historical standpoint, and, also, of its physiological and therapeutical properties, is that given by Trousseau and Pidoux. These authors availed themselves freely of the labors of Chrestien, of Montpellier, whose researches have proved the most important yet undertaken.

Gold, in the form of powder, and, also, of chloride, was the subject of investigation by Hahnemann, whose "provings" corresponded, in the main, with the ideas then entertained of the actions and uses of gold. Since then, the homœopathists have employed gold in two classes of cases: hypochondriasis, and increased discharge of urine. I once heard an original homœopathist, a high-potency person, testify regarding the happy influence of the 30th dilution of gold on the mental condition of an old man affected with senile dementia. When the astute attorney on the other side got the homœopathic doctor to make a calculation of the quantity of gold actually received by his patient, the jury wore an incredulous look, very depressing to the opposing counsel.

From the various sources of information now available, chiefly clinical, we learn that the preparations of gold possess those properties formerly entitled *alterative*, and now usually designated by the phrase *promoting tissue-metamorphosis*, or *metabolism*, and the power to give stability to nervous matter, or the antispasmodic property. There are three several heads under which it will be convenient to group for my purpose the therapeutical powers of gold and its preparations, quite irrespective of its supposed physiological action:

The so-called alterant effects;

The actions on the nervous system;

The urino-genital properties.

Before undertaking to present the details under these several heads, it may be best to say something of the preparation used. I have always preferred the double chloride of gold and sodium since I learned how little diffusible the chloride is. Injected subcutaneously in animals, the chloride seems not to diffuse through the vessel-walls, and when introduced into the blood tends to clog the kidneys. On the other hand, the double salt is readily diffusible. I have no experience with metallic gold or the oxide. Notwithstanding the chloride is so little diffusible, when taken into the stomach, effects are produced. It is probable that in the reactions which ensue the double chloride—of gold and sodium—is formed.

The usual dose of the gold and sodium chloride is one-twentieth of a grain. In this quantity twice or three times a day, it appears to have, as its primary action, the power to promote constructive metamorphosis, to improve the globular richness of the blood, and to increase tissue-strength. However, kept up for a time, tissue-changes become more rapid, and waste occurs in excess of repair. The tissues yielding most readily are, as might be expected, the connective, and especially those of pathological formation. Hence the utility of this remedy in *sclerosis*, whether nervous, hepatic, or renal. Especially in posterior spinal sclerosis, and in chronic interstitial nephritis, have I found the gold salt very efficacious. I am far from believing that lost parts may be restored, although some of my critics seem to think my credulity limitless. If used in locomotor ataxia, early and persistently, it has seemed to arrest the disease. It is true, since the publication of Strumpf's results with the faradic brush, I have not failed to make use of this method, but that it alone will stop the morbid process, I do not find. Before the electric brush had been employed systematically, I had witnessed the best results from gold and sodium chloride. During the last ten years I have seen many cases in consultation, but of five in my immediate charge which I have followed, and in which the treatment was begun with the onset of the second stage; in three the disease seems not only to be arrested, but the condition improved. The knee-jerk, however, remains absent or feeble. The others are manifestly improved. Thus far no persistent gastric or intestinal disorder has been caused by the remedy.

Excellent results have followed the use of the gold chloride in many cases of fibroid kidney, not only in my own hands, but in the care of other practitioners. Unquestionably the homœopathists, guided in the use of this agent by the symptom—increased urinary flow, have had good results from the first dilution; but this topic is foreign to my present purpose.

There is a form of hypochrondriasis, coincident with the onset of degenerative changes in the cerebral vessels—and it may be dependent on these changes—in which the gold and sodium chloride is very effective. It must be persistently used, and after a time the uneasiness in the head, the vertiginous and other abnormal sensations subside, the mental depression at the same time clearing up. Dr. Bauduy, of St. Louis, kindly informs me that he has had the same good effects. It seems to me that the ancient notion that gold is a "cordial" to the mind in cases of melancholy, is also supported by modern experience.

In certain affections characterized by spasm, as asthma, laryngismus stridulus, and singultus, this remedy acts surprisingly well sometimes. A physician with large experience in a malady which I do not see at all now-a-days—pseudo-croup, or laryngismus—informs me that he employs no other remedy, and his patients get speedy relief. There are various cognate affections in which, no doubt, it will be found in a high degree useful.

The same powers render gold a remedy of great value in certain urino-genital affections. I have referred to chronic interstitial nephritis. I could enumerate many instances of the more chronic cases of albuminuria, in which the curative effects of this remedy have been most conspicuous; but I am here concerned with the merely nervous affections. There are certain cases of sexual debility, accompanied by the extreme degree of hypochondriasis, which are among the most difficult and unsatisfactory with which we have to deal. No remedy has seemed to me so serviceable as this in this troublesome condition of things. In simple sexual debility, its administration promotes activity. In dysmenorrhœa with scanty menstruation, and in chronic metritis, accompanied by these symptoms, the persistent administration of gold and sodium chloride has done much good.

I present these notes now, in advance of more elaborate treatment, to awaken a more general interest in the actions and uses of gold. My observations indicate the direction in which this remedy promises to be useful, but wider and more varied experience is necessary to fix its real position. That it possesses very valuable powers, is certain, but it remains to be seen how far my belief is justified in the results of many cases seen under diverse conditions.

On the Therapeutic Differences in Electric Currents, and on the Electro-Diagnostic Exploration of the Extent of the Field of Vision.

The *Jour. Am. Med. Ass.*, August 16, 1884, tells us that C. Engelskjön has an extended article on this subject in the *Nordiskt Medicinskt Arkiv*, which is summed up as follows:

1. The experiences with patients suffering from cutaneous vascular neuroses, have demonstrated that in their local application upon the skin of the subject, with the use of the electric water-bath, the two forms of electric currents exercise an inverse action upon the vessels, in that the faradic current dilates the vessels spasmodically contracted, while the galvanic current contracts the vessels that are actively dilated. In conformity with this difference of action, the faradic current produces simultaneously an increase, and the galvanic current a lowering of the temperature. There is no difference in the two poles of the galvanic current.

2. The central application of electricity produces similar effects, in cases analogous to the cutaneous vascular neuroses, so that in certain given cases the relief is due to one only—that is to say, either to the faradic or galvanic current.

3. Comparative observations on patients suffering from *hemicrania and other*

central neuroses, have demonstrated that in proper applications the galvanic current acts inversely to the faradic current, in a therapeutic point of view, as one of these currents only will give relief in a case where the other increases the disease. The difference in effect of the two currents upon the subjective symptoms, is in most cases instantaneous and marked. It is possible to neutralize the effects of one by the other.

4. The neurotic affections of the great sympathetic, such as stenocardia, cardialgia, etc., act with reference to electric currents, similarly to the affections of the central nervous system.

5. The author has noted cases that, beyond a doubt, from their clinical condition, were affections accompanied with evident anatomic alterations of the central organs, and which, nevertheless, yielded to treatment in the same way as the neuroses, and were promptly relieved by suitable electric treatment.

6. It is more than probable that the peculiar etiological nature of these cases exercises a determining influence upon the consequent condition of the case in particular, and consequently a knowledge of the etiological conditions in a case is necessary to a suitable selection between the two kinds of current.

7. A diseased condition of the spinal ganglia may act reflexly upon the spinal cord, and give rise to spinal symptoms. In the same way spinal affections are capable of reflex action upon the brain, and of giving rise to cerebral symptoms. Reflex actions proceed *always* from below upwards. It well to observe here that the organ secondarily influenced by the reflex action should generally be treated by a different current from the organ in which the affection has its origin.

8. The author treats cerebral symptoms by electrization of medulla oblongata. He places one electrode in the fossa of the ligamentum nuchæ, and the other above the larynx. The spinal symptoms can be treated simply by conducting the electric current along the lower portion of the spinal cord.

9. The increase of morbid symptoms that is provoked by a long-continued use of electricity, so well known, is due to the effect of the current on the healthy ganglionic cells.

10. The electrization of the brain, of the spinal cord, of the ganglia and skin, exercises a powerful influence on the functions of the retina, by, in a given case, the positive current increasing the field of vision, and frequently at the same time increasing markedly the acuteness of vision. As these effects are, so to speak, immediate, it is possible to utilize them in determining which current is suitable to the case.

11. If we subject for several minutes the hands and fore-arms to the action of warm or cold water, in special morbid cases, the same effect is produced upon the field of vision in the use of the cold water as with the galvanic current, while the warm water produces the same effect as with the inductive current.

12. In their general action on the skin, the cold and warm water exercise, in certain given cases of disease, the same therapeutic effects as the galvanic and faradic currents when used separately, the effects of cold water resembling that of galvanism, and those of warm water being identical with the effects of faradism. If we know the kind of current best suited to a given case, we can indicate the water treatment. *Vice versa*, the effects of water will indicate the selection of the electric current.

13. There are cases of nervous affections which, while suitable for general electric treatment, are not benefited but made worse by the use of either of the currents in central electrization. It is always possible to relieve a certain number of these cases by electrization of the skin. So employed, the electricity acts in two different ways: 1st, by influence upon the skin itself; 2d, by influencing the peripheric nerve canals. The two forms of current act inversely in the first case, but not in the second.

14. In using the two currents upon the peripheric nervous circuits in neuralgia, the author has never observed any qualitative difference in their therapeutic activity.

Hyoscyamin in Acute Mania.

In the *Lancet* August 16, 1884, Dr. C. Theodore Ewart says that he has tried this alkaloid in twelve cases of acute mania, and has found it answer admirably. Although there is nothing novel in what he has to state regarding its action, he thinks it might be of some interest to give the following six cases.

Case 1.—C. A——, male, aged sixty-one; not epileptic. About every fourth month he suffered from delusional mania, which lasts for two months. During this period he is very noisy, shouting loudly or muttering incoherently. He sleeps but little. After these brain storms he becomes quiet and tractable. Thinking that hyoscyamin might shorten the attack, I ordered one grain. Although the sleep produced was very profound, the breathing stertorous, and the paralysis most marked, the pulse throughout was good, beating steadily and regularly. I decided, however, in future to give a smaller dose. The attack was not shortened by any appreciable length of time.

Case 2.—F. W——, male, aged thirty-six, well-built and muscular. Formerly in the Artillery; served in India for a few years. Has had sunstroke. Is epileptic. Tongue furred and bowels constipated. Is so violent and excited that he has to be placed in seclusion; struck one of the attendants severely. Ordered three-quarters of a grain of hyoscamin at bedtime. Was sleeping quietly in ten minutes. Awoke in the morning much quieter, although still suffering from delusions. Gave an aperient draught. Kept in seclusion three days, and then allowed out into the grounds.

Case 3.—J. C——, male, aged forty-four. Not epileptic. Supposed cause, a fall. Tongue coated, breath offensive, and bowels constipated. Is very noisy and excited. Had to be placed in seclusion. Beat the door continually, fancying he was crushing blackberries. Imagined he had met God and the devil; the latter he knocked down. Ordered three-quarters of a grain of hyoscyamin. Was asleep in a short time. Passed a quiet night; more rational in conversation. Gave an aperient draught. In four days he was allowed out.

Case 4.—G. B——, male, aged thirty-eight. Supposed cause, religion. Not epileptic. Most noisy and unmanageable; converses in a loud tone with imaginary persons; face flushed; excited expression of eyes; required four attendants to restrain him. Ordered three-quarters of a grain of hyoscyamin. Within a quarter of an hour he was sleeping profoundly, and did not wake till 6 a. m., having had twelve hours' refreshing sleep. More quiet. Had to be fed thrice. Repeated the draught at bedtime. On the third day he was sent to the infirmary ward, as he was suffering from an inflamed knee. Very deluded, but is free from excitement.

Case 5.—W. E, male, aged forty-four. Is epileptic. Suffering from an outburst of maniacal excitement, endangering the safety of the other inmates. Placed in seclusion. Given half a grain of hyoscyamin, which produced deep and prolonged sleep. Much quieter on waking. Allowed out the following day.

Case 6.—B. P——, male, aged fifty. Not epileptic. A noisy, troublesome patient at times; broke a couple of mirrors, and attacked the attendants. Placed in seclusion. Ordered three-quarters of a grain of hyoscyamin, causing deep sleep. Awoke in the morning quiet. Allowed out.

It is, I think, the better plan to give a large dose at once than to administer smaller ones at intervals; for in the cases which are most benefited by this drug the difficulty is to get the patient to take more than one dose, and to frequently disturb only tends to make his excitement greater. There is no danger in three-quarter-grain doses, nor is nausea or sickness produced. The pulse at first is very much quickened and stronger, and then gradually gets slower and loses strength. The face is flushed and the pupils greatly dilated by its stimulating action on the peripheral ends of the sympathetic. The breathing is in a few cases stertorous, but in the majority quiet. On waking, spectral illusions are apt to be present. When given in small doses, the sleep procured is very restless and disturbed.

The conclusion I draw from the result of the treatment of these cases is, that hyoscyamin is undoubtedly of great service in certain cases of mania where the patient is violent and cannot be restrained. It is certain in its action, quieting the patient within a quarter of an hour after administration, through its effect on the nervous system. The sleep produced is very deep, and the muscular power greatly weakened by its direct paralyzing action on the spinal cord. Whether this drug has any curative effect or not it would be difficult to say; but I imagine it is chiefly through the complete rest produced that its beneficial action is seen. There is no doubt that lengthened sleep in cases of acute mania does good, and the longer a patient continues in an acutely-excited state the greater is the danger of permanent mental injury. After repose the patient awakes refreshed, and with greater strength to withstand mental excitement. An objection to the use of hyoscyamin is that it is so very expensive; I am therefore trying the far cheaper sulphate of atropia. The preparation I have used was obtained from the General Apothecaries' Company, and contained four grains to the ounce.

Opium Smoking as a Therapeutic Means.

The *Jour. Am. Med. Ass.* says there are two drugs comprised in our list of therapeutic agents which, however potent for good, are dangerous to human happiness by reason of the very properties which make them boons to mankind. These are opium and alcohol. Each is sure to bring mental, moral, and physical ruin upon its devotee. Each is capable of effecting as complete debasement as did the magic wand of Circe when it transforned Ulysses's companions into swine. The very insidiousness with which these drugs allure their victims increases their danger. Every practitioner of extended experience must be able to recall instances in which the physician's prescriptions proved the foundation of either one or the other fatal habit. We have in mind a young man of brilliant parts who attributed his incurable love of strong drink to the whisky and quinine ordered by the doctor as prophylaxis against malaria. Facts like these are too well authenticated to be denied, and even to mention them may savor of truism. What then is to be said of the frequency with which the opium habit is contracted under similar circumstances? Often it is the only alternative to an existence rendered otherwise unbearable by excruciating pain. But does this consideration lessen the evils of the habit?

Whether the internal consumption of the narcotic be on the increase, as maintained by some, or not, there is one method of its use which has certainly assumed alarming proportions within a few years—we mean opium smoking. This vice of the East stares us in the face wherever the almond-eyed Chinaman has made himself a temporary citizen. Would that his vile habit might also depart with him! Our land is particularly open to this seductive vice because of the immigration of the Chinese. Hence, we feel it our duty to protest against the influence likely to be exerted by the article which appears in the *American Journal of the Medical Sciences* for July, 1884. It is entitled "Opium Smoking as a Therapeutic Means," and gives a resumé of the report which Dr. Thudicum made at the Twelfth German Medical Congress, of his experience with the narcotic when smoked.

"According to Thudicum, opium smoking gives excellent results in a large number of affections. It rapidly cures a violent case of coryza, causing an almost immediate cessation of cough, and has a very calming effect in phthisical cough. In chronic coryza, also, two or three pipes smoked in the morning will soon bring about a complete cure; and in hay fever it is an excellent remedy. The author has also seen most excellent results in chronic neuralgia and migraine, which had stubbornly resisted large doses of quinine. Long-standing migraine may be cured in three or four months, if the patient will persist in the treatment. Certain cases of hyperæsthesia, which sometimes lead to insanity, are also cured by this method.

"Of a large number of cases treated by Thudicum, only one has acquired the habit of opium smoking, so that the method by no means tends to produce the objectionable habit. A person may smoke for a long time and no inconveniences result other than a little digestive trouble. But, on the other hand, care must be taken that the patient smokes a sufficient quantity, as opium, in small doses, is a tonic and stimulant."

We quote the above in order that the reader may judge for himself if the spirit of the article be not calculated to do harm. What is the character of the diseases for which Thudicum recommends the measure? Acute and chronic coryza, phthisical cough, hay fever, chronic neuralgia and migraine, "certain cases of hyperæsthesia that lead to insanity." Are they not the very class of affections, excepting acute and chronic coryza, which, by their very stubbornness, predispose to the acquirement of such a habit? Moreover, it is expressly stated, that the means must be often persevered in for several months in order to effect a cure. Finally, are these diseases so unyielding to other remedies as to make opium-smoking the *dernier ressort* and counterbalance the risks run?

Dr. Thudicum has been fortunate in having seen the opium habit confirmed in only one out of the large number of cases in which he has employed it. And it is to be hoped that he will continue to be as fortunate. But we believe a more extended use of the measure would lead to a different opinion from that uttered by the article in the *Journal*, and that it would hardly endorse, as comparatively harmless, a means so seductively capable of mischief. We sincerely trust it will be long before our American therapeutists countenance this employment of opium. That the habit was formed in one case is proof that it is not devoid of danger, and serves to emphasize the necessity of practitioners of medicine exercising all possible caution in prescribing agents so capable of producing misery.

The Comparative Action of Coca and Caffeine.

The *N. Y. Med. Jour.*, Aug. 2, 1884, says: In view of the remarkable discrepancy between the published statements of various observers as to the action of coca, a writer in a recent number of the "Ephemeris of Materia Medica," etc., has entered upon a course of experiments with several drugs reputed to have very much the same physiological action, and all characterized by the property of preventing sleep under certain circumstances. It is generally admitted, and is probably true, the writer remarks, that the same power in these agents which refreshes, recuperates, and sustains, in the condition which needs or requires such effects, also counteracts the tendency to sleep, or produces wakefulness when a tendency to sleep exists, and, therefore, if a tendency or disposition to sleep could be prevented by these agents, this tendency might be used as a measure of their effects when used in varying quantities, and thus the agents be measured against each other for dose, or quantitative effect. The proposition was to first measure coca against tea, then coffee against guarana, and finally to compare the four agents, using pure caffeine as a kind of standard to measure by.

An opportunity for such trials occurred in a healthy individual sixty-five years old, not habituated to the use of either tea, coffee, tobacco, or any other narcotic substances, of good physical condition and regular habits, and not very susceptible or sensitive to the action of nervines or so-called anti-spasmodics. Quantities of preparations of valerian, asafœtida, compound spirit of ether, etc., which would yield a prompt effect upon many individuals seemed to have little or no effect upon him, nor did moderate quantities of wine or spirits stimulate him. In short, he had not a very impressible nervous organization, was not imaginative, nor very liable to accept results on insufficient or partial evidence. Fully occupied with work, both physical and mental in due proportion, for more than ten hours every secular day, when evening came he found himself unable to read long, on account of a drowsiness supposed to be of a purely physiological character. With a full breakfast at about 7:30, a full dinner at about 2:30, and a light evening meal about 7, and no stimulants or tea or coffee at any time, he found, as a matter of not invariable but general habit, that by half-past eight drowsiness became so dominant that it was almost impossible, and generally impracticable, to avoid falling asleep in his chair while attempting to read, even though ordinary conversation was carried on around him.

The first trial to combat or prevent this drowsiness was made with caffeine. The first specimen used was a very beautiful article made by Merck, of Darmstadt, and after that pure specimens made for the purpose, the two kinds being found identical in effect.

Beginning with a one-grain dose at about 6:30 p. m., on alternate evenings, leaving the intermediate evenings in order to be sure that the nightly tendency still persisted, and increasing by half a grain each alternate evening, no very definite effect was perceived until the dose reached 2½ grains, and this dose simply rendered the tendency to sleep resistible by effort. After an interval of three evenings, with the tendency to sleep recurring with somewhat varying force each evening, a dose of three grains was taken—the maximum single dose of the German Pharmacopœia. This gave a comfortable evening of rest, without sleep or any very strong tendency to it until ten o'clock. Without anything to counteract sleep, the rule was to read with difficulty by nine, without much comprehension by a quarter past nine, and either be asleep or go to bed by half-past nine. The 3-grain dose of caffeine repeatedly obviated all this discomfort up to ten o'clock, but did not prevent the habitual prompt and sound sleep from the time of going to bed till morning.

This was the model established, upon and by which to measure all the other agents, and they were never taken nearer than on alternate evenings, with occasional longer intervals, especially when the final doses of record were to be taken.

The next agent tried in precisely this same way was coca, and, as it was known that the quality of that which was attainable was very low, the commencing dose of the leaf in substance was 2 drachms, or about 8 grammes. This gave no very definite effect, but 2½ drachms did give a definite effect, and a subsequent dose of 2½ fluidrachms of a well-made fluid extract of coca gave about the same effect as 2½ grains of caffeine. Three fluidrachms of the fluid extract were about equivalent to 3 grains of caffeine.

Menthol.

Prof. **Henry Trimble** thus writes in the *Pharmaceutical Record*, August 15, 1884.

Under the name of "peppermint camphor" and "solid oil of peppermint," menthol appears to have been known as early as 1829. Its composition and some of its properties were investigated by Dumas, Blanchet and Sell, and Walter, with the result that they closely agreed on its composition, but differed widely concerning the fusing-point. These investigations were on the camphor from American peppermint, and they all agreed on the formula $C_{10}H_{20}O$, while the fusing-point varied from 25° to 36.5° C., boiling-point from 208° to 213°C.

In 1862, Oppenheim (*Jour. Chem. Soc.*, xv. 24) described a "solid oil of peppermint" from Japan, the product of mentha arvensis, and for which he proposed the name of "menthol." He stated the fusing-point to be 36° C., boiling-point 210° C.; and the following result in regard to composition:

	Japanese.	*American (Dumas).*	*Calculated for $C_{10}H_{20}O$.*
C	76.93	76.5	76.92
H	13.40	13.1	12.82
O			10.26

Not much attention appears to have been given to this substance, until mention is made (*Am. Jour. Phar.*, May, 1871) of the use of Chinese or Japanese oil of peppermint by the Chinese of California for neuralgia. Flückiger (*Pharm. Jour.*, Oct., 1871) examined some of this oil and obtained menthol from it, the identity of which with the menthol from M. piperita he considered "not quite satisfactorily proved."

In 1874, Mr. John Moss, (*Pharm. Jour.*, November, 1874) speaks of the arrival in London of both the solid and liquid oil from Japan. He found the fusing point of the solid oil to be 39° C., add boiling point 215° C., although it began to boil at 210° C. In 1876, Messrs. Beckett and Wright (*Jour. Chem. Soc.*, xxix.) examined the same menthol furnished by Mr. Moss. They first purified it by solution in weak alcohol, separation as an oil, and exposure to air until crystals formed. These crystals, after several weeks' exposure to air, fused at 42° C., and boiled at 212° C. A combustion gave the following result:

	Calculated.	*Found.*
C.	76.92	76.35.
H.	12.82	12.91.

Since then menthol from Chinese or Japanese oil has rapidly gained in popular favor, until now it may be found in a variety of forms in almost every drugstore.

In the June number of the *American Journal of Pharmacy* is mentioned a menthol from M. piperita, for which the name "pipmenthol" is very properly suggested, to indicate its origin, and distinguish it from that of China. There is sufficient physical difference between the two to warrant the employment of different names. The sample furnished me by Professor Maisch has the characteristic odor of M. piperita, while the commercial menthol has a peculiar odor, resembling a mixture of peppermint with other members of the mint family. The crystals are "snow-white and acicular," while those of commercial menthol are more or less transparent. Chemically the two are udoubtedly identical, as the following experiments will show.

Pipmenthol fused at 42° C.; several determinations confirmed this. The thermometer used was compared with a number of others and found to be accurate. Japanese menthol fused at 41°. Three combustions, one of pipmenthol and two of the Japanese, were made with the following result:

	Calculated for $C_{10}H_{20}O$.	*Pipmenthol*	*Japanese.* *I.*	*Japanese.* *II.*
C	76.92	77.14	79.63	79.33
H	12.82	12.93	13.08	12.75
O	10.26			
	100.00			

The difference in the amount of carbon in the Japanese is explained, as is the lower fusing-point, by the presence of some of the liquid oils richer in carbon. This will also explain the low fusing-point given by the early investigators.

As found by Beckett and Wright, menthol after exposure to air for some weeks will have a higher fusing-point, and we may suppose a lower carbon percentage. The pipmenthol as now made may properly be taken as a standard for the determination of the properties of this substance, and there is little doubt but that the Japanese article may be so purified as to resemble it in everything but odor.

The Use of Collapsible Metallic Tubes in the Dispensing of Ointments in Ophthalmic Practice.

Dr. Charles A. Oliver thus writes in the *Med. News*, August 9, 1884. This method was brought to the author's notice about two years ago by a suggestion from an artist-patient, and from noting its good use in connection with ointments for general skin disease. He does not in any way claim that the idea is new, but thinks that, after some personal trial, his experience with the plan is worthy of record.

The advantages are several:

First. Cleanliness. The material is enclosed in a perfectly new and clean tube, the drug thus being free from any deleterious influence by access of extraneous matter.

Second. Economy. No more ointment than is absolutely necessary will be used at each application. None can be lost by carelessness, or accident in upsetting, or from breakage, as in glass jars or earthen pots.

Third. No exposure of the drug to the atmosphere. The preparations are partically sealed, the tube always being completely filled; consequently, all of the evil effects from contact with the air are avoided.

Fourth. Readiness of application. There is no necessity for an article to apply the ointment, the tube itself serving as a quick and efficient means.

Fifth Better regulation of amount to be used. This is obvious when we consider that any degree of pressure can be brought to bear upon the tube in forcing out certain desired quantities of the contained material.

Sixth. Less risk and greater ease in carriage. A small cylinder closed by a tightly screwed cap, is more convenient and safer to have about the person than a box or a pot with a loose lid or top. The tube can be easily carried in a pocket, whilst no amount of ordinary pressure can burst its walls or force the cap.

The objections that have been found are:

First. In labelling. Although this has not been any worse than in the ordinary form of boxes, pots, and jars, yet many attempts have been made to obviate the difficulty experienced by the loosening of paper labels from the body of the tube and the proposed large flat caps. All of these attempts had to be resigned in favor of a wired pasteboard tag.

Second. Free expulsion of the ointment. At first this seemed to present an almost insurmountable difficulty; but, by experiment with a variety of special ointments through different sized openings, the following rough rules were obtained: Vaseline and rose-water ointments, holding small percentages of drugs, as well as nearly all of the oleates, are expelled with great facility through the ordinary opening of about one-half millimetre diameter. Stiffer ointments, and those containing a powder, in any quantity, as a rule, require an increase in the size of the aperture to about two millimetres in diameter.

Third. Chemical decomposition. This is the most serious objection, and the one necessitating the entire abandonment of the method, except in cases either where drugs with no real or harmful affinity for the metals of the tubes are employed, or that they shall practically become inert by the extremely small amounts embodied in the ointments used.

Conclusion. In the dispensing of eye-ointments, collapsible metallic tubes are useful by reasons of cleanliness, economy, non-exposure of the contained drug to the atmosphere, readiness and facility of application, better regulation of the amount to be used, and less risk and greater ease in carriage; whilst they are contra-indicated by difficulty of expulsion of stiff ointments, and chemical change, causing either a deposition of some of the elements of the tube into the ointment, with a thinning and breakage of the tube walls, or an action upon the contained delicate substance, rendering it either useless or harmful. Consequently, at present, until some better material can be employed in the manufacture of collapsible tubes, it will be better to continue the use of wood, glass and porcelain, to insure purity of drug and surety of action.

Water as a Diuretic.

In an article on the action and use of diuretics, in the *Practitioner*, May, 1884, Dr. T. LAUDER BRUNTON says that water is, perhaps, the most powerful diuretic we possess, although fewer experiments have been made with it upon animals than with the others. The diuretic action of water drunk by a healthy man is very marked, and it appears impossible to explain its elimination by a mere increase in blood-pressure, whether general or local. It has the power of increasing tissue-change, and thus multiplying the products of tissue-waste which result from it, but it removes these waste products as fast as they are formed, and thus, by giving rise to increased appetite, provides fresh nutriment for the tissues, and thus acts as a true tonic. In persons who are accustomed to take too little water, the products of tissue-waste may be formed faster than they are removed, and thus accumulating may give rise to disease. If water be freely drunk by such persons, the product of waste will be removed, and health maintained or restored. Many gouty persons are accustomed to take little or no water except in the form of a small cup of tea or coffee daily, besides what they get in the form of wine or beer. In such people a large tumbler of water drunk every morning, and especially with the addition of some nitrate of carbonate of potassium, will prevent a gouty paroxysm. Still more numerous, possibly, is the class of people who arise in the morning feeling weak and languid—more tired, indeed, than when they went to bed. Many such people are well fed, they sleep soundly, and it seems almost impossible to believe that the fatigue which they feel in the morning can result from imperfect nutrition, more especially as one finds that after moving about, the languor appears in a great measure to pass off. It seems that this languor must depend upon imperfect removal of the waste products from the body, as we know that the secretion of urine in healthy persons is generally much less during the night than during the day. Such people should drink a tumbler of water before going to bed in order to aid the secretion of urine and of the waste products during the night. In some cases, though not in all, the result has been satisfactory, and possibly might have been still more so, if the bicarbonate and nitrate of potassium, which are so useful in cases of gout, had been added to the water.

Lately a plan of treating gout by draughts of water at intervals during the day has been a good deal employed, and is in many cases successful. The following is a diet used along with this treatment by a medical friend:

7:30 a. m. Ten fluidounces of very hot water. 8 a. m. Breakfast: equal parts of weak tea and milk, a small quantity of white sugar, a slice of fat bacon without a strip of lean, bread, and fresh butter. 1 p. m. Milk-pudding, rice, sago, tapioca, macaroni, or blanc mange, and small biscuits with butter, ten fluidounces of hot water. 4 to 5 p. m. Ten fluidounces of hot water. 6 p. m. Dinner: white fish or fowl (usually boiled), greens, bread, no potatoes, claret seven fluidounces. 8 to 9 p. m. Ten fluidounces of hot water. 11 p. m. Ten fluidounces of hot water.

If he indulges either in meat or game, or drinks copiously of claret, or omits one or two glasses of hot water, he feels gouty or gravelly next day. It is obvious that by this plan of treatment, in which the ingestion of nitrogenous food is most strictly limited, at the same time that every facility is given for the elimination of the products of nitrogenous waste by the large quantities of hot water drunk in the course of the day, the accumulation of waste in the tissues ought to be most effectually prevented.

Belladonna—Some of its Therapeutic Uses.

Dr. P. N. Cilley thus writes in the *Virginia Medical Monthly*, July 1, 1884: This drug has been selected as the subject for discussion, with no intention on my part to present an elaborate disquisition upon the philosophy of its action, or of even naming but a few of its most prominent virtues, and elucidating its most important effects on the human system. This I will endeavor to illustrate and make clear by mentioning some cases in which I am satisfied it was eminently useful in my hands. My impression is that it has been too much neglected by the profession generally; and my belief in it as an extremely valuable medicinal agent is my excuse for calling attention to it.

I will first report a case of *obstruction of the bowels*, and the treatment employed.

In 1880, immediately after having eaten a hearty meal, while rolling a caskful of corn on its chine across my crib, I was subjected to a sudden, violent twist and wrench of my whole body, requiring a tension of all the abdominal and lumbar muscles to prevent the cask from falling. On the instant of this wrench I experienced a sharp, stabbing pain in the central and outer part of the right hypogastric region. This pain continued very severe, and in a few minutes I was compelled to go to stool, and had a full natural action.

Partial relief from the pain followed the action, but in a short time nausea and faintness set in. Desiring to rid the stomach of its contents, I took an emetic of mustard, which acted freely, but immediately on its action the pain returned.

A rupture was suspected, but a critical examination by my physicians, Drs. Buse and McBee, did not confirm this expectation, but satisfied them of the existence of an obstruction, probably an invagination, or intussusception of the large bowel at its junction with the small intestine. Probably the violent muscular contraction at the moment the trunk was twisted upon itself—the stomach being distended with food—forced a portion of the bowel within an adjacent portion, perhaps the smaller within the larger at their junction—this displacement naturally setting up spasmodic contraction and constriction of the invaginated parts.

A small tumefaction, easy to move, speedily showed itself at the point of pain, not being very sensitive to touch at the outset, but increasing in tenderness on pressure as its size increased. From the moment of its development until its removal I am confident no fæcal matter passed through that point in the bowels.

Anodynes, cathartics, enemas, poultices, hot and cold applications, and a large list of remedies, general and topical, were brought to bear on that slowly-increasing tumor, but it held forth against them all; so I will not particularize.

Everything taken into the stomach was speedily rejected, and all enemas were quickly returned.

Local applications doubtless retarded inflammatory action, and anodynes lessened sensibility to pain, but all failed to open this obstructed viaduct.

Large injections of warm water were thrown slowly into the bowels by means of a Davidson's syringe, in oder to fill and distend the colon up to the point of obstruction, and thus, if possible, lift off the contracted envelope; but when the fluid began to impinge upon the irritated mucous membrane, there was not strength in my muscles sufficient to resist the violent ejectment of it, and the resulting pain was intolerable.

In the first stages of such an attack, after the spasmodic action of the muscular tissues has had time to abate, and before irritation and inflammation have been set up, I feel assured this form of treatment might often be pushed to success; but, in the more advanced stages, when the tumefaction is well marked, and the integrity of the tissue perhaps involved, I apprehend danger of rupture in using much pressure. In my case I will not say it gave no aid to the other means used, for possibly, notwithstanding the increase of suffering, it paved the way for more effective action of other remedies.

I was attacked on Monday morning, and these enemas were used on Wednesday and Thursday. On the latter day three drops of croton oil were given, but rejected by the stomach instantly.

Later on Thursday night, a plaster spread with Tilden's extract of belladonna, four by six inches in size, was applied to the right side of the abdomen, and kept there. At 2 o'clock p. m. Friday, the surface about the umbilicus and in the right hypogastrium was rubbed with three drops of croton oil, and a plaster of belladonna applied to the entire surface of the abdomen; and, five hours later, eight drops of the croton oil were well rubbed in, and the belladonna again applied, with a warm poultice over it.

At 9 o'clock p. m. of the same day, I discovered for the first time the acrid taste and roughness in the throat, characteristic of the belladonna, and, half an hour later, the small bowel, for the first time since the accident, set up peristaltic action, accompanied by borborygmus. This rapidly found its way down to the obstruction, where a sensation of tugging or pulling became manifest, with a well-marked sensation of slipping in the bowel at the invagination; and I as distinctly felt the inner fold drawn out of the embrace of the outer as I do now my finger drawn out from the grasp of my other hand. I thought I knew what pain was before this, but the slipping of that bowel, each time it moved, had such a world of anguish in it as I never felt before, and hope never to experience again.

The bowels were speedily moved discharging a dark fluid, extremely offensive. Hypercatharsis had now to be guarded against by anodynes and stimulants, and irritation subdued by topical and other remedies, and I was soon on my feet again; but for a year I could not sit in the saddle without pain.

What relieved me, and how? Was not the belladonna an indispensable integer in the cure? We all know it has a wonderful effect in relaxing muscular tissue, and combatting irritative contractility of muscular fibre, by paralyzing the motor nerves. Here was what we desired to unfasten—this grip of the bowel upon itself.

Then again, it is well understood that belladonna, in moderate effect, increases peristaltic action by paralyzing the inhibitory nerves which control the intestinal function; might not this increase of peristalsis have been sufficient to untie the knot without the aid of croton oil?

And further, we know that through its paralyzing the peripheral vagi (the inhibitory nerves of the heart), it increases the heart's action, gives more *vis a tergo*, sends a more powerful current through the arterioles into the venous capillaries, establishing an exaltation in the venules. Now, what more reasonable conclusion is to be presumed than that under this exalted circulation, the invaginated and constricted coats of the bowel should have their depressed circulation increased, their lost vitality restored, and their natural functions re-established?

Perhaps the croton oil, carried into the circulation by absorption, was, just at this juncture, calculated to set up violent peristalsis and open the *primæ viæ.* Had not relief come when it did, I should have insisted on having the cavity of the abdomen opened, and reduction attempted by taxis.

In all such protracted cases, when the bowels are moved, the practitioner should carefully guard against excessive purgation and prostration.

Many years ago, I treated in the same year two cases of obstructed bowels, both young negro men. Belladonna was the leading remedy, and in both the obstruction was removed. The one, in the care of a vigilant master, strictly conforming to directions, made an excellent recovery; but the other, left to the tender mercies of a careless overseer, was neglected, no support being given, and, after long and violent purging, sank and died.

But warm water injections, croton oil, and belladonna, will not cure all cases of obstruction of the bowels. I believe the belladonna more useful than any other remedy, and I have used it locally and internally; but, under favorable circumstances, the former method has my preference. I give the solid extract in half-grain doses every hour, until the acrid taste and dilating pupil warn me to discontinue it.

Belladonna is an admirable assistant in the reduction of *strangulated hernia.* Apply the soft extract freely to the strictured neck after softening the surface with warm water, exercise a little patience, and then, grasping the sack with both hands, gently compress it, drawing it away from the neck, swaying it from side to side; and, take my word for it, in nineteen cases out of twenty of recent strangulation, the bowels will be speedily returned—especially if you elevate the hips and relax the abdominal walls.

In *spasmodic stricture of the uterus or urethra*, and in the passage of calculi through these ducts, I have seen speedy relief result from the use of this drug, applied locally, or given internally either by the mouth, rectum or urethra.

In *strangulated hemorrhoidal tumors*, where those oft-repeated spasmodic contractions of the sphincter ani are causing so much distress, nothing can surpass, in promptness, the relief procured by a liberal application of the extract of belladonna to the anus and perineum, after softening the parts with warm water to facilitate absorption. Nor is this relief palliative alone. If given in half-grain doses once, twice, or three times a day, as may be necessary to keep the bowels open, it will permanently cure many cases.

In two cases of *paraphymosis*, it allowed easy reduction, where the knife would have been a terror. Intelligent effort at reduction had been previously used in vain. The extract was applied locally.

In *inflammation of the iris*, or any other portion of the eye, the local application of belladonna should not be neglected, as it prevents, or breaks up, adhesions that would impair vision. It may be applied around the eye, or a solution may be dropped in the eye, and a cloth dipped in the solution may be applied over the organ.

But the trouble in which I regard it as a remedy, *par excellence*, is in protracted *labor, with rigid, thin, partly dilated os*. where the patient is worn out, irritable and nervous from long continued, short, and sharp cutting pains. From the time of the first masters until now, thousands of plans have been devised to relieve this distressing complication; many of these plans are useful; most of them will relieve if persisted in long enough. But in belladonna I offer one agent that has never failed in my hands to produce a speedy change. With a little of the soft extract on my index finger, I smear it on the os uteri, both without and within heavily, for an inch or more in width all around the ring. But should any obstacle interpose to render its application difficult by the finger, the extract is dissolved in a little warm water, and applied by the aid of a vaginal syringe. The application of the belladonna may occasionally require one or two repetitions, at intervals of half an hour. In most cases, however, before the expiration of that time, the ring suddenly becomes soft and thickened, yielding kindly to the pressure of the head; dilatation occurs with wonderful rapidity, the pains become protracted and expulsive, the nervous irritability subsides, the patient returns with alacrity to the task in hand, and a speedy delivery is the result.

Nor is it less useful in a *rigid perinæum*, if smeared on the parts. But strict care should be observed to support the perinæum through every pain, as the dilatation occurs so suddenly, and in most cases commences to develop its effects at the posterior margin of the perinæum before the meatus is impressed; and in this condition a violent pain might cause the head to pierce the perinæum and tear its way through. I am not quite sure but a free use of belladonna increases liability to post partum hemorrhage. This should be guarded against.

In *dysmenorrhœa* belladonna is eminently useful, especially in that form of it dependent upon a constriction of the cervix and os uteri, a narrowing of their canal, and a dense, hardened and unyielding condition of their tissues. It was extensively used by my preceptor and former partner, Dr. H. V. Wooten, and subsequently by myself, in the formula recommended by Drs. Cartwright and Holmes, of Mississippi.

℞. Powdered camphor	135 grains.
Extr. belladonna	27 "
Sulph. quinine	27 "

Mix and make seventy-two pills.

On the incursion of the pain give one of these pills, and repeat it every half hour until the violence of the attack abates, or a pungent, acrid taste in the throat, resembling tobacco, and dimness of vision, from dilatation of the pupil, warn the medical attendant of the development of the effects of the drug, and point to the propriety of its discontinuance. Relief from pain will surely follow. Occasionally, but not often, the pain returns before the close of that catamenial period, and if so the pills should be repeated. So pointed is the relief from this preparation, that several of my female friends are unwilling to meet these periods unless provided with this combination or some modification of it.

Belladonna often disappoints the profession, because of the carelessness or dishonesty of druggists. Be sure you have a reliable preparation, fresh and pure, and you will will find it will do all and more than I have claimed for it.

Cutaneous Therapeutics.

This was the title of a paper read before the Chicago Medical Society (August 18, 1884) by Dr. P. C. Jensen. The integument, he said, retained many of the primitive characters of early embryonic life when it dipped into the interior of the body by deep folds and involutions, to be subsequently differentiated into organs for special function, such as the alimentary canal and the accessory organs, furnishing prolongations for the formation of the spleen, the kidneys, the bladder, the external and internal genital organs, etc. In all instances the excretory organs consisted essentially of limitary membrane, forming part of the integument of the body or its involutions. The lachrymal, salivary, pancreatic, and mammary glands were in like manner composed of a continuation of the liminary membrane of the true skin, or the mucous membrane lining the alimentary canal, involuted into tubes and follicles the free surface of which was covered with epithelial cells. It was this early embryological relation of the true skin to the internal organs that furnished us with so essential a factor in therapeutics. In cutaneous disease, as in lesions of the internal organs, it was worth remembering that much of the functions of disabled organs could be carried on by the compensatory action of neighboring organs. In congestion of the kidneys we relieved and depleted by bringing the skin and bowels into energetic action, and, by removing the burden, we enabled the overworked kidneys to rest. Conversely, elimination by all the emunctories was essential in the treatment of diseases of the skin. Upon the back of a horse Colin caused water impregnated with potassic cyanide to drip for five hours. The percussion effected destruction of the sebaceous matter, with absorption of the cyanide, and poisoned the animal. In Vienna patients had remained immersed in a bath for weeks and months without any perceptible degree of absorption taking place. Usually the small quantity of material absorbed was introduced either by points of transition between the skin and mucous membrane, or by the orifices of the sebaceous and sudoriparous glands. When the cutaneous surface of a limb was immersed in putrid gases, absorption took place (Bichat), and the poison was subsequently eliminated by the bowels. The rate and degree of absorption of any medicine would depend largely upon its power of diffusion. Physiologically, the skin might be considered a colloidal septum, on one side of which lay the blood-vessels containing an alkaline fluid, while there was an acid on the other side—a condition most favorable to osmosis.

Medicinal substances in aqueous solution slowly permeated the skin to enter into the circulation. Alkaloids dissolved in chloroform were readily transferred through the skin into the blood-vessels, while alcoholic and aqueous solutions were either not absorbed at all or only very slowly, according to Waller, whose observations had been made with chloroformic solutions of atropine, aconitine, morphine, and strychnine. The same physiologist had ascertained that alcohol mixed with chloroform did not retard absorption, but that alcohol alone caused an osmotic flow.

With these remarks as a foundation, the reader proceeded, to consider the *local treatment of skin diseases*, including, 1. Protection, the exclusion of air when its contact was injurious; 2. Cleanliness, through ablutions, the removal and prevention of diseased products; 3. The checking or limiting of liquid disease-products, whether sanguineous, sebaceous. serous, or puriform; measures to enable the remedies to act directly, without injury to the surrounding parts. To fulfill these requirements we had: (*a*) plasters, (*b*) ointments, (*c*) tinctures, (*d*) dry powders, (*e*) alcoholic and ethereal solutions, (*f*) chloroformic solutions, (*g*) oleo-palmitates. Those most commonly used were the metallic oxides and the salts of the following metals: lead, silver, mercury, zinc, copper, and aluminium. There were also various astringents, sedatives, and anodynes of organic origin. Of the local remedies, the more recent ones were salicylic acid, chrysarobin, chrysophanic acid, pyrogallic acid, and naphthol. Tilbury Fox had used goa-powder formed into a paste with water. applied to psoriatic patches, and retained in position with collodion. Sesemann employed chrysophanic acid six grammes, to collodion four grammes. Pick recommended chrysarobin gelatin of different strengths, and applied glycerin over the gelatin. Unna had proposed chrysarobin plasters; Müller, ointments of chrysophanic acid spread on muslin; but all these methods would often produce dryness, irritation, pain, and tenderness, and therefore they were impracticable. Dr. Kohn used a solution which he termed traumaticin, consisting of one part of gutta-percha in two parts of chloroform. It was said to form a thinner and more delicate covering than collodion or gelatin, causing neither tension nor pain. Traumaticin was a neutral covering and protective remedy. Ten-per-cent. solutions of it, when applied to large surfaces, did not cause irritation; besides, it produced more uniform pressure than collodion, glycerin, or gelatin.

The writer has treated a number of cases of psoriasis and obstinate chronic eczema subtantially as follows: In most cases there was either a debilitated constitution, a gouty diathesis, anæmia, neurasthenia, or the like. Particular attention was paid to each constitutional dyscrasia. Eliminants were used to remove waste products and toxic *débris*, and for their derivative effect. Locally, after the removal of crusts, etc, an alkaline lotion was thoroughly applied, causing saponification of the sebaceous material, and inducing an alkaline reaction favorable to osmosis and absorption. Thus:

Bicarbonate of sodium	ʒj
Caustic potash	ʒss
Water	Oj.

The following ointments had answered admirably in the writer's experience:

Powdered camphor	ʒss–ʒj
Chloroform enough to dissolve it,	
Chrysophanic acid	gr. xx
Powdered opium	ʒss
Cosmoline	℥j.

This was to be applied after using the alkaline lotion. Tannin might be substituted for the chrysophanic acid, and vaseline for the cosmoline. Chloroform solutions were clean and effective. The following should be applied with a soft sponge:

Camphor	ʒij
Chrysophanic acid	ʒss
Tincture of opium	f.℥ss
Squibb's chloroform	f.℥ss–j
Alcohol, enough to make	f.℥ij.

Carbolic acid might be substituted for the chrysophanic acid.

The writer has also tried liquor gutta-perchæ as a vehicle for chrysarobin and tannic and carbolic acids, and had found it very efficient.

The paper concluded with a general description of some of the neuralgias accompanying cutaneous disease, and gave a number of new formulæ, among them the following, for local application in neuralgia of the fifth nerve, which would give marked and often instant relief:

Menthol	ʒj
Sulphate of morphine	gr. iij
Tincture of aconite root	f.ʒij–iij
Chloroform	f.ʒiij
Spirit of camphor	f.ʒij
Dilute phosphoric acid	gtt. xx.

The acid was added to favor absorption.

The cause of the neuralgia, which was symptomatic of some pathological condition, should be sought for and, if possible, removed, in order to affect a permanent cure, but the application alluded to would almost invariably afford relief.

Dr. C. E. WEBSTER inquired if using the oleates to act on the fatty substance would not be equivalent to using an acid to favor absorption; and, if it would, whether we could not get a double advantage by using both an oleate and an acid simultaneously.

Dr. H. J. REYNOLDS thought well of the paper. Regarding the causes of some of the skin diseases, he thought over-taxing of some of the organs and insufficient action of the skin at times would produce them. In the former case, where an organ has been overworked, defective action of some of the other organs might co-exist. Weather and climate had much to do as a cause. Some skin diseases prevailed in cold weather, as, for instance, psoriasis; while others were prevalent during the hot season. In the treatment, the great aim should be to perfect the equilibrium of the action of the skin and other organs. We relied too much on so-called specifics, and, in doing so, we were often defeated in bringing about the desired result unless the other idea was borne in mind—namely, to secure free action of the skin and other secretory organs. Although the few specifics, such as mercury, iodine, quinine, and arsenic, would enter largely into the treatment of these affections, there were external causes much more frequently present than we were generally led to suppose. The digestive tract also needed to be looked to. Another agent that might cause some of the forms of skin disease (singularly enough) was electricity. Just how it did it was a question which he was not fully prepared to answer; but, again, electricity was frequently of great service in the treatment of skin disease. He was sure its value was frequently underestimated, as nothing fulfilled certain indications for treatment so well as the application of electricity.

Dr. C. W. Earle inquired if using chrysophanic acid, gr. xx to ℥j, would not cause an erythematous condition of the surrounding parts. Should we expect this from using the remedy in any strength, or was this proportion too strong?

Dr. Jensen had used the oleates of zinc, mercury, and copper a good deal, and he had found them to be efficient remedies, easily absorbed and easy to apply, and they were very neat; but he had not used them so extensively as he had the acid preparations. Irritation from chrysophanic acid occurred when it was used in considerable strength, but adding opium or bismuth to the preparation would prevent this to a great extent, or the strength might be reduced.

Dr. Reynolds stated that chrysophanic acid was more apt to cause an eruption of an erythematous character when it was used while arsenic was given internally. The irritation was of a mild inflammatory order, analogous to what occurred to the mucous membrane of the stomach when arsenic was given for too long a time, or in too large doses.

Hot Water in Heart-failure.

Dr. C. R. Johnson thus writes in *Gaillard's Medical Journal*, Aug., 1884: September 4, 1883, I was summoned to attend Mrs. A., about 47 years of age, the messenger urging me to hurry, and stating that "she was crazy." On my arrival I found her raging desperately, trying to fight those about her, who had to hold her on the bed, and at times thrusting her fingers into her mouth, trying to pull out her teeth. I was told that some four hours before she had four or five teeth extracted, the pulling of one of which caused a very sharp, darting pain in her left ear, of which she complained up to the time of the onset of this wild paroxysm. Her pulse was good and normal. Knowing Mrs. A. to be of a very hysterical temperament, and believing that the pain was the exciting cause of the attack, which I thought nervous and reflex, I at once administered, hypodermically, about one-fifth of a grain of the sulphate of morphia. Waiting half an hour, and there being no change, I gave, per os, fifteen grains of the chloral hydrate, and in fifteen minutes repeated the chloral, giving ten grains (the chloral was weighed). In about fifteen or twenty minutes after giving the second dose of chloral, my patient became relaxed and quiet. In a few seconds the face became livid, the ears were almost black, and the blood seemed as if settling in the neck in spots. The respiration stopped, and I could detect no pulsation.

In fact, she seemed in articulo mortis. I at once applied aqua ammonia to the nostrils, practiced artificial respiration, and attempted to get some brandy down her throat. The power of deglutition was lost, however, and I failed utterly to get any swallowed.

I now remembered having somewhere read an article on the use of boiling hot water in chloroform poisoning and the consequent syncope. The water was fortunately at hand, boiling on the stove, and though I thought my patient dead, I at once dipped into it a towel, and folding it up, scalding my hands, placed it over the heart; in a few seconds I redipped, and again applied the towel. At once, as if by magic, signs of life began to appear, and it was but a few moments till Mrs. A. was breathing naturally, and the pulse was regular and normal. She was now perfectly rational and quiet, and with the exception of a slight nausea, which lasted some three or four hours, had no further trouble.

I have since examined Mrs. A.'s heart carefully, and could detect no organic trouble.

It is a matter of little moment, whether it was in this case the chloral alone, or the combined action of it and the morphia, which produced the heart failure; the fact still remains that it was produced, and that the hot water, by its sudden and powerful revulsive action, again set going the machinery which had stopped. I have been led to report this case because of the increasing and reckless use of this potent but uncertain drug, both by the profession and the laity. And while I am well aware that one or two isolated cases prove but little, yet I know that the water, which, let me impress upon you, must be boiling hot, saved the life of my patient, and that in like cases it well deserves at your hands a trial.

Dr. Ernest Labbé, in his critical review of chloral, says that "large doses retard the action of the heart, and afterwards arrest it in diastole." Liebreich and a majority of writers admit that it acts on the innervation of the heart, which it abolishes. Dr Labbé says: "We should never exceed 70 to 90 grains, although 150 have been given with impunity." Yet, while by no means setting myself up as against such authority, I would, as a warning, in addition to the case which I have had the honor to report, call to your minds the untimely death of the late Dr. L. P. Yandell, and the case of the patient which but a few hours before his own death he reported to a friend, in all three in which the dose was far less that that allowed by Dr. Labbé.

Be cautious, then, gentlemen, in your use of chloral, more especially that of American manufacture, which is far too often impure. And in case the trouble meets you which confronted me, do not forget the boiling hot-water, and use it unsparingly, though as certainly it will blister the surface.

Uterine Tonics.

Dr. A. H. KINNEAR thus writes in the *Peoria Medical*, Mo.: Time was when many diseases that flesh is heir to were generally attributed to a torpid liver, and the first thing in order was to regulate said viscus, and all would be right; but the poor liver has had its day, and the physician's attention is now called to search in other fields for the hidden trouble, and when found proclaims to the world that the secret has been discovered and there is no need of further trouble or worry, and here rests—all further investigation would be useless, and his labors, no matter how faithful he might be, would be fruitless.

Such may have been the case in the past in the theory and practice, but certainly is not what we observe at the present time; for the causes and their remedies are nearly as numerous as the sands of the sea, each having its advocate;

and to increase its perplexity new ones are constantly being added, and were we deprived of the privilege of reading our medical periodicals, many of them would never reach the notice of the general practitioner, and some of which it would have been a blessing if they had never been brought to light. But we have to test all, and in this way we soon learn the virtues of each, and select for our use those which prove to be the most potent to restore to health those so unfortunate as to be stricken down with the many diseases man is subject to. The physician whose mind is well versed in the multiplicity of remedies we have to treat disease with, is qualified and entitled to the respect and confidence of his fellow-men.

Some two years ago, my attention was called to the virtues of caulocorea as a uterine tonic, with the request to give it a trial. I will state that I have given it a fair trial, and find that it has proven in my hands what it was recommended to do by the firm who prepare it (Dr. J. W. Lowell & Co., Portland, Me.), in the cases in which I have tested it.

Given in connection with the local treatment in ulceration of the os, and cervical endomeritis, also in hypertropy and the various leucorrhœal discharges, I find that it gives greater aid than any class of tonics that are usually prescribed in such cases that I have tried. It has also given good results in amenorrhœa and menorrhœa. In the two latter its effects are similar to the old lady's silk dress, viz: warm in winter and cool in summer.

I would recommend a trial of it by physicians who give particular attention to the treatment of female diseases, and believe they will be rewarded in their effort, and that they will find that it relieves pain and nervousness more readily than is reached by other remedies.

Diet in Typhoid.

In the *Jour. Am. Med. Ass.*, Aug. 16, 1884, Dr. S. K. Jackson says: With regard to *diet*, nothing has so surprised me as to see recommended articles of food which for years I have most sedulously avoided, because of having seen them do infinite harm in this disease.

How a physician who has had any experience with this form of fever can recommend farinaceous or starchy articles for food, I am at a loss to understand. The disturbances they occasion, which must have been noticed by every one, have given me more trouble than anything connected with these cases. They are easily understood when it is remembered how entirely absent are the salivary fluids, or any of the fluids containing diastase, by which is prevented the conversion of amylaceous food into dextrine and grape sugar. Such food, therefore, is not capable of assimilation, but soon after its admission into the stomach undergoes a fermentation which adds to the gaseous distension which may have occurred from other causes, and seriously complicates the case. I regard milk not only as the safe, but as the only useful article of diet, and this I allow *ad libitum*. Even if a larger quantity is taken than can be assimilated, it does no harm, though it is often passed unchanged.

I have never allowed the animal broths in the early stages of the disease without having reason to regret it. So that my plan is to allow nothing but milk, until such time as I perceive evidences of a return of the secretion of the digestive fluids. The chewing of lean meat, swallowing only the juice of it, is a favorite way of returning to animal food, as the act of mastication may stimulate the flow of the salivary fluids.

The Action of Certain Drugs on the Circulation of Blood in the Brain.

The *London Med. Record* August 15, 1884, tells us that Dr. Antonio Curci (*Gazz. Med. Ital. Lombardia*, July 12, 1884), Starting from the well-known fact that hyperæmia enlarges the brain while anæmia diminishes its volume, performed fourteen experiments on dogs. The cranium being previously trephined, a manometer with colored water was applied in relation with the surface of the brain by means of a tube full of oil, oil being chosen from its not being capable of absorption. To these dogs were given chloroform and ether (four experiments), chloral-hydrate (two), paraldehyde (one), amyl nitrite (two), morphia (three), and quinine (two.) The action of atropine was also tried, but the effects were contradictory. Albertoni found that small doses of atropine had no effect, while large doses caused cerebral anæmia. To obtain exact and genuine results, it is very necessary to await the spontaneous tranquility of the animal before the beginning of the experiment. Chloroform, ether, chloral-hydrate, and paraldehyde induce relative cerebral anæmia, as does also quinine, and hence the explanation of its advantage in insolation. Amyl nitrite and morphia cause hyperæmia. In profound and continued sleep during the action of morphia the manometric column is lowered; that is, the state of hyperæmia disappears. It is worthy of note that, while morphia is not able to cause hyperæmia of the brain exposed to the action of chloral, paraldehyde, chloroform, ether, or quinine, the hyperæmia due to morphia yields to the influence of these substances. The indications and contra-indications of these remedies are thus obvious. One or the other is to be used according to the supposed state of the cerebral circulation. In hyperæmia of the brain, chloral, paraldehyde, chloroform, ether, or quinine may be given; when in states of cerebral anæmia, morphia, and amyl nitrite are indicated.

Aletris Farinosa in Spermatorrhœa.

Dr. R. L. HINTON thus writes in the *Therapeutic Gazette*, Aug., 1884: W., æt 16, applied to me for treatment in Feb., 1883. He was an unfortunate victim of the habit of masturbation, as he frankly confessed, and also a victim of one of those confidential newspaper advertising quacks. He was weak, physically and mentally, gloomy and despondent in the extreme. He had quit the practice for several months, and had been under treatment of this quack, but was at this date having emissions nearly every night—sometimes with a dream, sometimes without. On careful and thorough examination, finding no local trouble, and no call for local treatment, I addressed my remedies to the impaired physical and mental, and, I might add, moral condition, alternating and combining remedies, to the best of my judgment, with what additional light I could gather from standard authors and current literature. Finally, after about six months' treatment, during which I saw my patient once or twice a week, with no permanent relief, both of us were becoming disgusted with each other, when my eyes happened to fall on a short article by Dr. D. P. Duncan, in the *Therapeutic Gazette*, for Aug., 1883, on "Aletris Farinosa as a uterine tonic." I concluded that what is "good for the goose, might be good for the gander." I, therefore, as a last resort, and for its tonic effect, put my patient on five-drop doses, ter die of this drug, the last dose to be taken at late bedtime. To my agreeable surprise he returned in less than a week with a beaming countenance, telling me that the medicine was curing him. He continued this treatment about three weeks, taking nothing else, and got well, and continues so at the present writing—three months after I discharged him.

Rectal Etherization.

Dr. O. Wanscher writes in the Copenhagen *Hospitals-Tidende*, of May 28, 1884, giving an account of the history of rectal etherization and of the advantages and disadvantages of this method. He states that in 1847, immediately upon the introduction of anæsthesia for surgical operations, Pirogoff conceived the idea of administering ether for this purpose by the rectum. Magendie's experiments upon animals, however, demonstrated the danger of injecting fluid ether into the rectum, many of the animals so treated passing into a state of dangerous or even fatal collapse, and Pirogoff was therefore led to experiment with the vapor of ether passed into the bowels. The method was described by him in a pamphlet published in St. Petersburg in 1847, entitled "Recherches sur l'étherisation," and also by Ekstromer, who recommended its employment instead of tobacco clysters in the treatment of incarcerated hernia. The latter used it also with success for the relief of renal colic. But upon the introduction of chloroform, Pirogoff, together with most of the European surgeons, abandoned ether, and then rectal anæsthesia passed into oblivion. The method was revived again by Wanscher, who published an article on that subject in the *Hospitals-Tidende* in 1882. The apparatus used by him, which is nearly identical with that of Pirogoff, consists of a bottle to which is attached a flexible tube about two yards in length, and provided at the other extremity with a nozzle with a stop-cock attachment. At the end near the nozzle the tube passes through a flask in which it is looped several times. The bottle is placed in a vessel of hot water, and the flask is also filled with hot water in order to prevent any condensation of the vaporized ether before it enters the rectum. By means of the stop-cock it is possible to administer or withhold the anæsthetic at pleasure, without withdrawing the tube. Dr. Wanscher has induced anæsthesia by this method successfully in a number of cases, especially in operations about the head and neck, and when openings were to be made into the thoracic cavity for the evacuation of the fluid in empyema.

IV. GENERAL MEDICINE.

Albuminuria.

During the last session, a discussion on the pathology and clinical significance of albuminuria occupied four meetings of the Glasgow Pathological and Clinical Society. Subjoined is a brief summary of the arguments of the speakers.

The discussion was opened by Dr. Newman (Glasgow), who, after describing the normal histological arrangement of the blood-vessels, tubules, and lymphatics of the kidney, and having drawn attention to the ease with which the latter could be injected from the ureter in a healthy kidney, described the changes that took place in chronic interstitial nephritis and acute parenchymatous nephritis respectively, pointing out that the lymphatics in the former condition became obliterated by the connective tissue growth. He then answered the question why albumen did not appear in normal urine, by assuming that osmosis occurred from the tubules towards the intertubular venous plexus, by which some of the water and all the albumen was reabsorbed; and secondly, he explained the diluted state of the urine in interstitial nephritis by the condition of the lymphatics, and the excessive amount of albumen in parenchymatous nephritis by the destruction of the epithelium, and also by the fact that it was perhaps derived from inflammatory exudation into the tubules.

[Dr. Newman appears to fail to explain those cases of chronic interstitial nephritis in which there is no albumen.]

Dr. W. Roberts (Manchester), after having described the "globulin reaction," *i. e.* the milkiness produced by dropping albuminous urine into pure water, and having related a case of chronic Bright's disease in which recovery took place accompanied by the retrocession of a hypertrophied left ventricle, passed on to speak of physiological albuminuria. After alluding to the observations of others, he said that he had found albumen generally present in the concentrated urine of healthy persons, and he expressed his belief that a sensible increase of this normal albuminuria often occurred under slight occasioning causes. With regard to the best methods of testing for albumen, he condemned the new methods lately introduced, and stated that he had found that, by boiling and careful acidulation with acetic acid, it was possible to determine the presence of one part of albumen in 250,000 of a watery solution. It was necessary to avoid over-acidulation, and he commended the use of a single drop of the acetic acid of the *British Pharmacopœia.* In testing with nitric acid, it was important to wait a certain time (thirty to forty minutes) for the development of the reaction.

Professor Hamilton (Aberdeen), in the course of an able speech, referred to the paradoxical results obtained by Runeberg in experimenting on the filtration of albumen, and explained them by pointing out that the intestine was not a simple membrane, but was compounded of several layers, so that, when the pressure was increased, the fibres of one layer were pushed into the pores of another, and so obstructed the passage of any colloid. The albuminuria of heart-disease was, he thought, due to regurgitant capillary over-pressure; that of cirrhotic kidney to the obstruction of the circulation on the distal side of the glomerulus; and that of desquamative nephritis to the same cause. The high arterial tension and frequent hemorrhages in Bright's disease he attributed to the altered specific gravity of the blood-plasma, which interfered with the essential conditions of capillary circulation, and produced friction by permitting the corpuscles to come into contact with the vascular walls.

Professor Gairdner (Glasgow) thought that pathological anatomy had impressed the notion of a gloomy prognosis in Bright's disease beyond the actual facts. He had known cases of recovery, and thought the disease should not be regarded as hopeless. It was doubtful whether the attempts to subdivide the disease were well founded. He had formed a high opinion of the work of Dr. Mahomed on this subject, and attached most importance to the way in which the kidneys performed their function of excretion of urea. He considered there was a great analogy between pulmonary catarrh and its consequences, and these renal lesions. He could not accept the doctrine of physiological albuminuria. Albuminuria, unless quite transitory, was always a danger signal of great significance, which could not safely be ignored.

Dr. Mortimer Granville (London) described cases of albuminuria due simply to vaso-motor disturbances in neurotic subjects, and protested against such being confounded with Bright's disease.

Dr. Mahomed (London) read an abstract of a paper about to appear in *Guy's Hospital Reports.* He criticised Professor Hamilton's theory of the cause of increased arterial tesion from altered specific gravity of the blood-plasma. He insisted on the importance of the retardation of the circulation in the glomeruli as a factor in albuminuria. He advocated the use of brine, picric acid, and tungstate of soda as negative tests. Bright's disease was due to an acute or chronic form of blood-poisoning causing congestion of the kidneys and general increase of arterial tension. The congestion might be increased to such an extent as to produce acute inflammation, or lead only to chronic changes.

Dr. Finlayson (Glasgow), while not denying the existence of albuminuria from pressure, from nervous disturbance, or in healthy persons, took it that the broad clinical fact most obvious to observers was that it was generally dependent upon some blood-poison, instancing lead, cantharides, the various acute infectious diseases, pregnancy, gout, rheumatism, syphilis, jaundice, diabetes, and alcohol.

Professor Leishman (Glasgow) spoke of the albuminuria of pregnancy as possibly dependent upon the altered state of the blood, and the hypertrophy of the heart present in that condition. He next referred to the pathology of puerperal convulsions and the various theories which had been advanced, opining that the same toxæmic condition afforded an explanation, and that they were not due to the albuminuria.

Professor Greenfield (Edinburgh) could not admit the existence of physiological albuminuria, although reliable observers had asserted that it occurred in healthy individuals. In his experience, it was very rare to find albuminuria in cases of apparently healthy candidates for life-insurance, or in the urine of patients in hospital wards, without a definite cause for its occurrence. But he had met with cases of albuminuria without other signs of Bright's disease, especially in anæmic young women. With reference to this question, it was important to bear in mind the latency with which organic renal disease frequently occurred. He agreed with Dr. Gairdner in the belief that chronic Bright's disease was not incurable, and quoted a case in point. He did not think with Dr. Newman that the normal circulation in the glomeruli was under pressure, as the efferent vessel, though smaller, was highly elastic, while the afferent vessel was muscular and normally in a state of tonus. He thought that the polyuria of waxy and granular kidney was due to the loss of this tonus. He did not believe that albumen escaped into the tubules under normal conditions. In Bright's disease the occurrence of albuminuria depended upon the structural changes in the kidneys, especially upon the changes in the glomeruli, which he explained in detail, and also in acuter cases on the exudation of inflammatory lymph. He could not maintain the existence of interstitial and catarrhal nephritis as distinct forms. Many cases of so-called cirrhotic kidney doubtless originated as acute catarrhal nephritis. But there was a form of cirrhosis, in some cases quite readily distinguishable, in which the changes were chronic peri- and endo-arterial thickening, with atrophy of the glomeruli, and secondary atrophy of the tubules. It was in this class that there occurred polyuria, high arterial tension, with cardio-vascular changes, but no albuminuria.

Dr. Joseph Coats (Glasgow) disputed Dr. Newman's explanation of the occurrence of albuminuria; pointing out that in the acute form, according to Dr. Newman, the epithelium could absorb water but not albumen, while in the chronic form albumen was absorbed and not water, a contradiction for which he had failed to account. He accepted Bowman's view of the physiology of the urinary secretion, though he believed, as Nussbaum had shown, that under certain circumstances water might be separated by the tubules. He quoted Ponfick's assertion that hæmoglobin, when present, was separated by the tubular epithelium. In amyloid disease, he considered the albuminuria to be the direct result of the arterial degeneration. In heart-disease, etc., the albumen came from the vessels around the tubules, as well as from the glomeruli, in consequence of the stagnation of the circulation. In some cases, reflex spasm might cause albuminuria in the same way as this resulted from temporary occlusion of the renal artery. In Bright's disease, he believed, albuminuria was the result of inflammatory exudation, and its amount depended upon the degree of inflammation present; leucocytes also transuded to a larger extent than was generally supposed; the cells ordinarily called renal epithelium found in the urine were often altered leucocytes. He agreed with Dr. Greenfield that a sharp line of distinction was not to be drawn between parenchymatous and interstitial nephritis. He did not think albuminuria would occur from increased blood-pressure alone.

Dr. Macgregor Robertson (Glasgow) said Dr. Mahomed had confounded the two processes of filtration and osmosis. If the process of secretion of urine was held to be one of filtration through the glomeruli, and this he thought was generally admitted, there was no rational reason why albumen should not pass through. It seemed to him that the name of filtration was given to the process, but the essence of it denied. He had lately performed an experiment with a view to determine whether paralysis of the renal epithelium would cause albuminuria, and this he had found to be the case in a cat under whose skin he injected a quantity of atropine. He thought this experiment threw light on such cases as those referred to by Dr. Mortimer Granville.

Dr. Kirk (Glasgow) directed attention to the tests for albumen in the urine. Boiling and acidulating with acetic acid was a good test; nitric acid should not be used for this purpose. Heller's test was very inferior. Picric acid by the contact method was the best; the solution consisted of one part of water to nine of the saturated solution. The precipitation of peptone was not a source of fallacy, as this substance must have a pathological meaning. Urates were rarely precipitated. Heat interfered with the delicacy of the test, therefore mucin and quinine must be excluded by other tests. Chromic acid solution (sp. gr. .1005) was an excellent test for albumen. Citric acid was the best test for mucin. The potassio-mercuric iodide produced too much reaction in normal urine to be relied upon. Tungstate of soda was a delicate test. No doubt these methods were not free from fallacy; but was heating and acidulating with acetic acid a perfect test? It was liable to produce a cloud from the presence of mucin, and the process of acidulation was not free from difficulty, too much acid vitiating the test.

Dr. G. S. Middleton (Glasgow) gave the results of his observations on albuminuria in continued fevers; he had found:

1. That albuminuria occurs in 85 per cent. of cases of typhus and enteric fever;
2. That it occurs early in both, rather later in typhus, and persists till convalescence is well established;
3. That abundance of albuminuria indicates a severe case, but severe cases do not necessarily have abundant albuminuria;
4. That tube-casts of all sorts are frequent and more numerous in typhus, and, when abundant, the case is severe;
5. That albuminuria is more common in the febrile stages of typhus and enteric than in the febrile stage of scarlatina.

He did not agree with Dr. Coats in his view that renal epithelium was rarely met with in the urine. He thought the essential cause of the albuminuria in these fevers was the interference with the nutrition and functional activity of the renal epithelium, by the fever poison and effete products circulating in the blood. He considered that the arguments which had been advanced against Dr. Newman's theory had failed. In conclusion, he referred to the observations of Dr. Munn, of New York, on albuminuria among candidates for life-assurance.

Dr. J. Lindsay Steven (Glasgow) could not admit the existence of a physiological albuminuria. Nor could he believe that mere increase of blood-pressure was a cause of albuminuria. He defended the view that the secretion of urine by the glomeruli was not a simple process of filtration, but quoted Heidenhain in favor of the view that it was a vital function of the cells of the glomerular vessels. In Dr. Robertson's experiment, it might have been these and not the tubular epithelium that were paralyzed.

Prof. Cleland (Glasgow) thought there was no evidence that simple squamous epithelium ever took on a secreting function. In opposition to Dr. Greenfield he confessed that he had never seen two efferent glomerular arteries, and had no doubt that the opening of exit from the glomerulus was smaller than the aperture of entrance. He also argued that the pressure in the glomerulus must be increased. He did not think the experiments quoted by Dr. Mahomed, of plunging freshly excised kidneys into boiling water, proved that no albumen transuded through the glomeruli, as the quantity was too small to be detected by so rough a test; and he was in favor of the view that albumen did so transude and was normally absorbed by the epithelium, this function giving meaning to the loops of Henle.

Dr. Perry (Glasgow) did not believe in physiological albuminuria. He thought the products of digestion were a fertile cause of albuminuria. He suggested that antiseptic treatment had diminished the frequency of amyloid disease in surgical cases. In pure amyloid disease, he thought the quantity of albumen was small. He had rarely met with interstitial nephritis in a patient " who had been a total abstainer during his whole life."

Dr. Oliver (Harrogate) thought it very desirable to discover the presence of any proteid in the urine. He raised the objection to the use of heat and acetic acid, that M. Méhu stated that oxalate of lime in the urine gave a milkiness with this test. He thought the discovery of minute traces of albumen, "minimal albuminuria," of clinical importance, as indicating mild pyelitis which passed on to more serious diseases. In conclusion, he alluded to his method for quantitative estimation of albumen, described in the *Practitioner* for February 1884.

Dr. Francis Henderson related a case of permanent recovery after chronic albuminuria, and alluded to the causes of intermittent albuminuria—digestion, chilling of the surface, the erect posture, active exercise. If digitalis contracted the blood-vessels, and also diminished albuminuria, there was ground for believing that this condition was due to over-distended vessels.

Dr. Newman in reply, dealt with some criticisms made by Dr. Greenfield, and took exception to some of his statements. He asked how Dr. Coats accounted for the occurrence of egg-albuminuria? He stated that amyloid disease had become very rare at the Royal Infirmary. He differed from Dr. Coats in thinking that the albumen in amyloid disease was large. (Dr. Coats then gave the authority of Leube for his statement that it was usually 2 per cent. in this disease.) He renewed his statements about the condition of the lymphatics in acute parenchymatous and interstitial nephritis, referring to his preparations. He disputed Dr. Greenfield's statements about the relative sizes of the afferent and efferent glomerular vessels, referring to his preparations, and showing an example of two efferent vessels as a curiosity. He accused Dr. Greenfield of confusing the ideas of pressure and velocity, and said both Dr. Greenfield and Dr. Coats had mistaken the theory he had advanced at the beginning of the discussion. He thought there was a tendency among medical men to look upon albuminuria too seriously, and that from this point of view Dr. Roberts had done good service in speaking of physiological albuminuria, though the name was a bad one.

Professor McCall Anderson, the president, in concluding the discussion, complimented Dr. Newman on his manner of opening the discussion. He summarized the statements of other speakers. He said his own experience with candidates for life-assurance was, that albuminuria did not occur except when from the other surroundings he should have examined the urine. He alluded to albuminuria in exophthalmic goitre as an example of neurotic albuminuria. He agreed with Dr. Newman that the albuminuria in amyloid disease was not large. He thought the high arterial tension to which Dr. Mahomed had drawn attention was of the utmost importance. Referring to the tests for albumen, he bore testimony to the value of picric acid. In conclusion, he hoped that at some future time the society would discuss the treatment of albuminuria.

The Universality of Cholera.

Deputy Surg.-Gen. W. T. MOORE, C. I. E., thus writes in the *Lancet*, Aug. 9, 1884:

Cholera may be defined as a disease always present and frequently becoming epidemic, generally characterized by purging and vomiting, usually of a material resembling rice-water, commonly accompanied by cramps, and frequently resulting in suppression of urine and collapse. But the term cholera implies a principle which is repugnant to the disease; the term cholera signifies a flow of bile, but the want of bile is usually one of the most prominent peculiarities of the complaint. It is impossible, therefore, to use the term cholera without pointing out the absurdity of an expression which literally implies, not what it ordinarily is, but what it ordinarily is not. And this should be borne in mind, as tending in some degree to account for the numerous names under which cholera has been described, as a consequence of the numerous phases in which it develops itself. Allen Webb* long since remarked that much of the mystery and obscurity which attaches to cholera results from its having been regarded—since 1832 in Europe, and since 1817 in India—as an entirely new and previously unheard-of malady; and he shows, by quotations from Snohruta, Wangohoo, and other ancient authors, that cholera is as old as India or China. "It is not always the same in its nature or effects. It is allied in its nature to some of the most desolating pestilences, as well as to some of the most common diseases." In its virulent form it begins, as Magendie observed, "in death." On the other hand, as with all other diseases, there may be a most mild and scarcely recognizable form of the malady. Of all writers, Macpherson† has, I think, most elaborately and satisfactorily shown that cholera is one of the most ancient diseases of which distinct descriptions exist, prevailing both in Europe and Asia from the earliest times. In support of the view of cholera having prevailed in early times in Europe, Macpherson refers to Hippocrates and Galen, who described a malady very similar to modern cholera; and he further demonstrates that cholera in one or other of its diverse forms has been described by successive European authors almost from the time of the ancients mentioned to the present date, and especially during the 14th, 15th, 16th, and 17th centuries. That cholera has been looked upon as a new disease in Europe since 1832 may be explained by the facts that medical writings of a reliable nature referring to former times were few, and that many of the writings extant, in consequence of the extraordinary variations which occur in the manifestations of the disease itself, do not describe that typical cholera which occurred in 1832, and which has come to be accepted as the only phase of the malady. Even analagous reasoning would teach that cholera prevailed in Europe and England in former times; for, as Surgeon-Major Waters* points out, considering that cholera is endemic only in countries where fevers of a malarious character are invariably to be found, and that these were common in England till a comparatively recent period—James I. and Cromwell having died of ague—it may be inferred that when the latter prevailed in full virulent vigor, the former occurred in epidemic periodicity, as it does in India.

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* Pathologica Indica.

† Annals of Cholera.

In support of the view of the antiquity of the malady in the East, there is the fact that the early Sanskrit writers were apparently well acquainted with cholera. In the Midan of Snohruta there is a description of a disease termed "vishuchuka" (meaning purging, vomiting, and fever), which was clearly cholera; while in other old Hindu medical works we have "jivat antishat," meaning fever and incessant purging. Then there is the significant fact that all the languages of the peninsula of India have a time-honoured name for the disease. Further, it appears to have been well known to the Mohammedan conquerors as "haidsa" or "haiza," and it has been shown that cholera prevailed among the Mohammedans of Delhi in 1325. There is also a record in Todd's "Ragas than," that temples to "Oola Bebee," the goddess of cholera, were found by the first European visitors in India. Macpherson makes the pertinent observation that as it is certain the Portuguese found cholera in India soon after their arrival in 1500, especially at Goa in 1540, it is only reasonable to believe that it existed in India previously. Mr. Gaskoin translated from the Portuguese a distinct notice of the disease occurring in 1503, when, as testified by Gasper Corea, 20,000 men belonging to the army of Zamoryn, King of Calicut died, "sudden-like with pain in the belly." But the first full account given by a European physician was by Garcia D'Orta, of Goa, who, in 1653, pointed out several varieties of cholera, much as they exist now. The ideas, therefore, which have been held by many, and as stated below, cannot be regarded as tenable—viz., that Bontius in 1630 was the first writer on cholera; that cholera is a comparatively recent disease; and that, as concluded by the Constantinople Cholera Congress of 1854, some change come into operation about the year 1817, giving rise to the first great Indian cholera epidemic.

Even assuming, as Bryden held, that Bontius in 1630 first described cholera, I have before me references to no less than fifteen distinct notices of the disease from that period to 1784. Dr. Waters, indeed, states there are no less than sixty separate and independent testimonies to the occurrence of cholera in India during the 16th and 17th centuries. Lastly, there is no doubt it was recognized in the Madras Medical Board's reports previous to 1817. The fact is, our knowledge of the diffusion of cholera in India in earlier times is imperfect and limited, as our knowledge of the country was then imperfect and limited; but that it did prevail previous to 1817 appears indisputable, although perhaps called by other names. For instance, the word *modesh*, derived from *modua*, to tear, was adopted by the Portugese, corrupted into *mort de chien*, and often applied indiscriminately to the different forms of cholera.

It is true that some of the writings on which reliance is placed both in Europe and India, to prove the antiquity of the disease, do not always describe the malady marked by suppression of urine, rice-water stools, and collapse, which in the present day is held to be true cholera. But this is only in accordance with the very numerous variations of the malady, as is sufficiently demonstrated by the number of names under which it has been described even in modern times, each term originating in some peculiar phase of the epidemic recorded. Thus wè have in the writings of European authors the terms—Cholera Asiatica, asphyxia, algide, bilious, black, blue, dry, epidemic, endemic, febris, remittents, choleroidea, choléra foudroyante, malarious, malignant, nervous, nostras, pestiferous, hæmorrhagica, serous, simplex, spasmodic, sporadic, syncopal, and tetanic. There is also cholerine, choleriform, choleroid disease, choleroid fever or sweating sickness, and the choleroid cholic of the Himalayas, which Webb regarded as a connecting link between cholera and colic. There is also reason to believe that cholera has been described as "white dysentery" and as *fièvre pernicieuse.* Now all these are comparatively recent terms called into use by the varying nature of the malady. The disease appeared under different phases, and both in India and in Europe was described as it appered, and therefore under a different appellation. There is indeed no disease in which the symptoms, although retaining certain characteristic, vary more. This variability of the affection was noticed on the first reputed invasion of cholera into Europe in 1832, when Dr. Pennick* pointed out how the epidemic in England differed from the disease in Russia. Allen Webb asked, in India, about the same time, "Who can tell where cholera ends and plague begins, or distinguish between certain forms of fever and cholera?" Macpherson states that the disease is essentially the same, but the cholera of one season varies from that of another. Ziemssen says that almost every epidemic has its physiognomy. Sir Guyer Hunter writes: "As there are varying degrees of fever, so there are varying degrees of cholera. It may manifest itself as a slight looseness of the bowels, or as a sudden paralysis of the vaso-motor system."† Chevers states: "Familiar as I am with the cholera of Calcutta, the disease I treated during the greater part of 1874 was of a type altogether new to me; no two cases of the disease were precisely the same." And, again: "As the malarious poison produces all variations, from a fatal remittent to the mildest ague, so with the cholera poison."‡ And such is the experience of most of those who have had much to do with cholera. In Bombay in 1883 persons died suddenly from collapse, without vomiting or purging, or after one or two loose stools. In other epidemics all the symptoms of cholera have occurred except that the stools were tinged with blood, mixed with blood, or even dysenteric. Often the premonitory diarrhœa is absent, and sometimes there are no cramps. At other times there are cramps and no purging. Sometimes the stools are not like rice-water, but serum. The similarity of cholera to fever is sometimes so great that both diseases have been attributed to the same cause—malaria. Cholera in its commencement may simulate an attack of ague, or terminate as fever. This is especially the case with the cholera of Peshawur. Cholera may also be so mild that the symptoms are scarcely recognizable. In every epidemic of cholera a large number of persons suffer from diarrhœa, which is, indeed, cholera in its mildest form. All this, however, is merely in accordance with other zymotic diseases, none of which are distinguishable by constant and invariable characters. As Carpenter has observed: "The peculiar morbific type of disease germ may be derived from the operation of particular environments on ordinary saprophytes through a long succession of generations." Mere degree is not sufficient ground for considering a disease different in essential character. There are mild and severe degrees of catarrh, influenza, scarlet fever, diphtheria, typhoid, &c.; some so mild as to be recognizable; and the symptoms of such diseases are sufficiently variable to often render diagnosis uncertain. But it has become the custom to regard cholera as a disease marked by certain signs only, and which spreads epidemically; and to say a malady is not cholera when all these signs are not present, or even if it does not spread when they are present. This view I am not prepared to endorse. The variability of the types of all other zymotic diseases is fully recognized. No one would deny a particular case to be one of diphtheria, or typhoid, or measles, because the symptoms were mild, or because all the symptoms of a typical case were not present; and it is only reasonable that the same breadth of view should be accorded to cholera. Then it would be recognized as what it really is—viz., a disease occurring at all times and in all countries, although not in the same degree of violence. Then futile endeavors to keep out cholera by quarantine would be abandoned; then the erroneous idea that the disease is always imported from India would be no longer held; then there would be better chance, especially on the Continent, of the axiom being acted upon—viz., that the incidence of cholera is always greatest in the most insanitary localities.

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* Lecture on Epidemics at the Sassoon Institute, Bombay, 1884.

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* Essay on Cholera, 1832.

† Report on Cholera in Egypt, 1883.

‡ Notes on Indian Diseases, Med. Times.

The Cholera Conference at Berlin.

The *Med. News*, Sept. 6, 1884, says:

In the last two issues of *The News* we laid before our readers an extended abstract of the address of Dr. Koch at the recent conference held at Berlin for the discussion of the cholera question. The subsequent discussion was participated in by Virchow, Leyden, Hirsch, Fränkel, Schubert, Bardeleben, and others.

The important conclusions to be drawn from Koch's paper may be summarized as follows:

1. Cholera is the direct result of the lodgement and proliferation in the intestinal walls of a distinct bacterium, usually comma (,) shaped, but frequently, also, semi-circular or S-shaped, suggesting the apposition of two bacteria. It may also grow out into a spiral thread resembling the spirochæta of relapsing fever, whence Koch doubts whether it should be ranked as a bacillus, as a transition-form between a bacillus and a spirillum, or a true spirillum.

2. The comma-bacillus is easiest found in the earlier stages of the disease, being later obscured by numerous other forms of bacteria. It is distinctive of the mildest as well as the severest cases, and has, therefore, an important diagnostic value.

3. It is capable of successful culture in broth, milk, on potato, and especially in gelatine, in which it grows peculiarly, producing a gradually extending liquefaction of the gelatine around the growing colony.

4. Thriving best at a temperature of 68° to 136° F., it is not destroyed by a temperature of 14° F.

5. It is, however, readily killed by drying, and it does not, therefore, pass into

a state of latent activity or resting state, as does the bacillus of anthrax and vaccinia. The removal of the nutrient medium for 24 hours or even less, and an acid reaction, also destroy the bacillus.

6. Under ordinary circumstances the bacilli, introduced by the mouth, are destroyed in the stomach, but given a derangement of this organ due to errors of diet or other cause, and the bacillus is enabled to escape the action of the acid gastric juice and to reach the alkaline intestinal fluid, where it proliferates, sets up irritation, diarrhœa, and all the typical symptoms of the choleraic seizure.

7. Cholera can only be spread by human intercourse, and cannot have an autochthonous origin, all observation going to show that the delta of the Ganges is its invariable source.

8. The harmful effect of the bacillus is probably not through its irritant action alone, because this is too limited in extent, but rather also through a poison or ptomaine which it generates, such as is produced by bacteria in putrefaction.

We have followed carefully the methods and reasoning of Koch, and have been favorably impressed by both. There is to us, too, a stamp of authority about these observations which cannot be admitted of those on tuberculosis. It cannot fail to be noted, however, that the whole subject is one of greater simplicity, and therefore easier of solution, than the tubercle question. At the same time we deem it premature to accept unqualifiedly the first and most important of his conclusions, because we believe that in a science like our own, where mathematical demonstration is impossible, we dare not, on the testimony of a single individual, however careful and accurate he may be, accept a conclusion until it is verified by others. The results of further observation must therefore be anxiously awaited.

The only observers who have as yet had the same opportunity as Koch are the French Commissioners, Roux and Strauss, who, while they admit the finding, among a large number of micro-organisms, of one resembling the comma-bacillus, they do not attach much importance to it. They also call attention to the finding of a comma-shaped bacillus by Maddox, of London, in a reservoir of water, by Malassez in dysenteric stools, and by themselves in the vaginal mucus of a woman with leucorrhœa, and in the mucous uterine secretion of a woman who had commencing epithelioma of the cervix.

Koch himself admits that all efforts to produce the disease in the lower animals by inoculation of the bacillus have been unsuccessful, but argues against the conclusiveness of this fact as an objection, that cholera does not occur in any of the lower animals. It is true that pigs fed upon the choleraic material died of convulsions in from fifteen minutes to two and a half hours; but Koch says this must have been an "intoxication" rather than an infection, because another pig fed upon the intestinal contents of one of those thus killed was not affected. It will be remembered that it has heretofore been believed that certain lower animals are subject to cholera. Further investigations are evidently required in connection with this point.

The discussion which followed the address was limited in some directions by the fact that few present had had practical opportunities of the kind enjoyed by Koch, but was facilitated by the presentation of sixteen questions, of which we can now only dwell upon two or three of the more important. First of these is, of course, the question: "Is the infective material of cholera identical with the comma-bacillus?" To this Virchow answers "not proven," seizing at once the weakest point of Koch's position—that cholera has not been communicated through its inoculation. At the same time, he admits that this is not an absolute refutation, and says further that if any one of the numerous organisms found in the dejecta of cholera be its cause, the probabilities are decidedly in favor of the comma-bacillus. The entire history of cholera, including its distribution, would seem to demand that 'a living organism is responsible; and the fact that Koch found that in certain cases the dejecta and the intestinal contents of cholera patients were made up almost wholly of cultures of this bacillus, that on the soiled linen—acknowledged to be the most dangerous means of communication—the growth of the organism is most active, leave it scarcely possible to conclude otherwise than that the bacillus is the essential cause. On the whole, then, we may say that Virchow inclines to accept the proposition.

Hirsch called attention to the fact that cholera morbus so often simulates in all respects Asiatic cholera, and furnishes some reasons for regarding it of an infectious nature. Koch says, in reply, that recent opportunities to investigate the morbid anatomy of this affection have failed to discover anything analogous to the comma-bacillus. Nor has he found it elsewhere, although here we must admit the force of Virchow's objection, that many test-observations must be made before this can be admitted.

Another point of interest brought out in the discussion bearing on the diagnostic value of the bacillus was the practicability of its detection by any except those favored by the possession of laboratory facilities. The conclusion arrived at and shared in by Koch was that the difficulties are not so great, but that the educated physician anywhere may be qualified to detect it, particularly with the aid of cultures, which are especially distinctive in the case of this bacillus.

In the discussion as to the existence of a period of latent activity of the bacillus, came up the question of the origin of isolated cases of cholera, apparently communicated by the clothing carried in a trunk from a distant source of infection. In the same category must be placed the cases named by our esteemed contributor, Dr. Henry Hartshorne, in his letter in our issue of the 30th ult. Koch met the former objection by showing that the interval was within that of the viability of the comma-bacillus under circumstances favorable to its vitality—that is, moisture. Cases of the kind related by Dr. Hartshorne are always apocryphal, and can never be admitted in determining a scientific question.

Whatever may be the fate of the comma-bacillus, the address and the discussion must be regarded as most important and memorable. The series of questions were calculated to exhaust the subject thoroughly, while the professional eminence of the debaters insured and resulted in a cross-examination of the distinguished mycologist, in which he acquitted himself as creditably as in the original discourse.

Iodoform-forming Bodies in the Expired Air of Diabetics.

As is well known, Petters, Kaulich, and others have found acetone, revealed by its peculiar odor, in the expired air, the urine, and the blood of diabetics. Later investigations have proved its presence in the urine by chemical reactions, but methods for recognizing it in the expired air were less available.

Several new acetone reactions having been recently discovered, Dr. Noble attempted to obtain results more accurate than had been obtained hitherto. The urine of a diabetic patient contained no acetone on examination; but, some days after an exclusive fish-diet was begun, it contained large quantities. The expired air was thus examined. It was first conducted into a Woulff's bottle filled with distilled water, and after half-an-hour a solution of iodine in iodide of ammonium and liquor ammoniæ was added. By the next day a yellow precipitate was seen at the bottom of the flask, which on microscopic examination showed the iodoform tablets most clearly. On the other hand, the urine of another diabetic patient, which only gave a weak acetone reaction, showed only a slight separation of iodoform.

On another occasion, the air was passed through the water for an hour, the latter was distilled for six hours in a water bath at 58° C. (146.4° F.), and the distillate was divided into three equal portions. To one of the above-mentioned test solution was added, and a copious preeipitate of iodoform obtained. To the second a few drops of mercuric chloride were added, and then enough caustic potash to render it alkaline; it was then filtered, and ammonium sulphide added; this caused a black precipitate of sulphide of mercury (Gunning's reaction.) The third portion yielded a positive result with sodiumnitro-cyanide and liquid ammonia (the acetone test of the author.)

No doubt remained that the iodoform-making substance was acetone. Continued distillation for an hour gave no more acetone, though the iodoform reaction revealed $\frac{1}{10000}$ of a milligramme.

On another occasion the distillation was made at the temperature of 80° C. (176° F.); and after twelve hours the neutral distillate, which gave distinctly the iodoform reaction, was treated with spongy platinum, and the presence of acetylaldehyde at the beginning of oxidation was proved by the reduction of ammonia-silver solution, and by the color-test of the author (sodium nitro-cyanide, caustic potash and acetic acid). By further oxidation acetic acid was formed, which reddened blue litmus-paper held over it; by careful neutralization with very dilute caustic soda, a red color, which was destroyed by dilute sulphuric acid, was obtained with ferric perchloride. Thus, beside acetone, ethyl-alcohol was found in the air expired by this patient.

Regarding the destiny of alcohol in the animal organization, according to some it is oxidized for the most part, and therefore must have a nutritive value; while, according to others, the greater part of it is excreted, unaltered, by the kidneys, skin and lungs. However this may be, it is evident that no conclusion can hence be drawn as to its behavior in the bodies of diabetics, in whom the oxidation-processes are altered so much owing to irregular tissue-changes. The alcohol formed in such subjects may possibly be excreted unaltered for the most part, which would agree with the above results.

V. CLINICAL MEDICINE.

Diabetic Coma.

The following was published in *The Med. News*, Aug. 9, 1884:

The complex of symptoms known as diabetic coma was first described by v. Dusch in 1857, shortly afterwards by Petters, Kaulich, and Cantoni—1857 to 1864—and has been more recently studied by Kussmaul, in 1874, and Frerichs, in 1883.

The symptoms are not invariably the same, but the presence of the condition is generally inferred if sleepiness and stupor, accompanied by frequent pulse, supervene upon the other symptoms of a diabetes mellitus. These phenomena are commonly gradual in their development, but there is sometimes met a more acute form, characterized by suddenness in the appearance of the above symptoms, to which are added gastric and intestinal disturbances—epigastric pain, vomiting, sometimes of blood, purging—a peculiar noisy delirium, panting respirations, and fluctuations in the rate of pulse, which continue until coma is thoroughly established, after which the pulse remains frequent and small. A peculiar fruity odor, like that of acetone, is sometimes exhaled by the breath and the urine. These symptoms occasionally disappear, but more frequently they terminate in death.

Even the earliest observers, Petters and Kaulich, regarded the condition as an intoxication due to a substance derived from some metamorphosis of sugar, resultting in the formation of alcohol and other products of alcoholic fermentation. Having been able, with more or less certainty, to demonstrate acetone in the blood and urine, they selected this substance as the toxic agent. But even they admitted that acetone might be present in the expired air and urine in other affections, as the acuto exanthemata, pneumonia, diseases of the stomach, and in diabetes without coma. Still more recently v. Jaksch, among others, has regarded acetone as a product of normal tissue-change as well as of disease.

It will be remembered that the test heretofore in common use for acetone is *chloride of iron*, recommended by Gerhardt. This observer discovered that there was occasionally a substance in the urine of diabetics and habitual drunkards which struck a red reaction with this reagent. He inferred that this was the source of acetone, and was probably ethyl diacetate. At the same time, this substance has never been isolated, and it is considered by some to be diacetic or aceto-acetic acid. It was also soon discovered that the chloride of iron reacts with other substances more liable to be found in urine than the acetone-producing agent, so that it can no longer be considered a safe test.

Another test is Lieben's *iodoform test.* Dr. Ralfe suggests the following method of using it: About a drachm of liquor potassæ containing twenty grains of iodide of potassium is placed in a test-tube and boiled; a drachm of the suspected urine is then carefully floated on the surface. When the urine comes in contact with the hot alkaline solution, a ring of phosphates is formed, and after a few minutes, if acetone or its allies are present, the ring will become yellow and studded with yellow points of iodoform. These, in time, will sink through the ring of phosphates and be deposited at the bottom of the tube. Von Jaksch, in his extensive experiments published in *Zeitschr. für klin. Med.*, Bd. v., Heft 3, 1883, applied the test to the distillate from urines. Lieben himself furnishes a list of nineteen substances, of which two are found with certainty in urine, viz., ethyl-alcohol and lactic acid, while the others, alcohol, aldehyde, and certain fatty acids, may be present accidentally or otherwise in normal and pathological urines.

More recently Penzoldt has made use of the *indigo reaction* suggested by Baeyer and Drewsen, and has published the results of an extensive series of experiments, as well as a *résumé* of the results of others, in the *Deutsches Archiv für klin. Med.*, Bd. xxxiv., Heft 2, Oct., 1883. The test is applied as follows: Heat a few crystals of nitrobenzaldehyde until dissolved allow the solution to cool, when the aldehyde separates as a white cloud; then add the suspected fluid, and make it distinctly alkaline with dilute caustic soda. If acetone is present, there appears first a yellow, then a green color, followed by an indigo blue, in the course of ten minutes. If only traces of acetone are present, the yellow fluid is shaken with a few drops of chloroform, when a distinct blue coloration of the chloroform takes place.

By this method acetone can be easily detected in a dilution of 1 part to 2500, but for such delicacy the distillate must be used—about one cubic centimetre. The reaction is less distinct if the test is directly applied to urine, because of the coloring matters and other constituents; but acetone may be detected by the aid of chloroform, when in the proportion of 1 part to 1000. So far as known, pyroracemic acid, aldehyde, and aceto-phenon are the only substances producing the indigo reaction, and these have not as yet been found in urine.

Still another test is Legal's with *nitroprusside of sodium and caustic potash.* These reagents strike a red color, which passes over into purple on the addition of acetic acid. Kreatinin strikes a similar red color, which disappears when acetic acid is added. This test may also be applied directly to urine.

Penzoldt investigated 62 pathological urines, using for test purposes the first 2 cubic centimetres of the distillate from 300 of the acidulated urine. Of the 62 cases, 22 were diabetic. Of these, the indigo reaction was present but twice without chloroform, twice with chloroform, and in 18 cases was totally absent. Of the latter, the iodoform test responded decidedly in 7, in 6 moderately, and in 7 feebly. Two were not tried by the iodoform test. It will be seen, therefore, that this reaction was marked in several instances in which the indigo reaction did not respond.

Of the fever cases, 11 were typhoid, and in only 1 of these was the reaction decided without chloroform; in 2 with the aid of chloroform, while in 8 it failed altogether.

Out of 7 cases of pneumonia, the indigo reaction was decided in 6, and absent in 1 only.

It failed altogether in all of 6 cases of phthisis.

The reaction was present in 1 out of 3 cases of measles, and in the urine from 1 case of cerebro-spinal meningitis. Of the non-febrile cases, the reaction was found in 1 of old traumatic stenosis of the œsophagus in a child. In this case there was also a transient glycosuria, and the urine responded to the chloride of iron test as well; but both this and the indigo reaction disappeared the next day.

Thus, in the total of 62 cases, the indigo test for acetone was found but 12 times distinctly, and 6 feebly; while the iodoform test responded in almost every case, failing entirely in but 2 of the 52 in which it was tried.

It is evident from the above that the tests for acetone, or the acetone-producing substances, are far from being satisfactory. For it is impossible, in the present state of our knowledge, to say positively whether the indigo or the iodoform test is the most reliable. If we accept the indigo as correct, the number of cases even of diabetes in which acetone urea is present is very few; while if we accept the iodoform test they are quite numerous. But, when we remember that Lieben himself, the discoverer of the iodoform test, gives a list of nineteen other substances which respond to his test, of which at least five may occur in urine, while only three substances besides acetone, and of which none have as yet been found in urine, respond to the indigo test, it seems that the latter must be regarded as the more reliable.

It has already been mentioned that Petters and Kaulich supposed that acetone originated in certain fermentative processes of grape sugar, taking place in the gastro-intestinal canal, and especially the stomach, although without ever having proved it. According to Kaulich, Anthon obtained in the fermentation of grape sugar a fluid which was recognized as acetone by Prof. Lerch. Penzoldt mixed solutions of sugar with yeast and various fluids, such as decomposing cheese, rotten egg, and fever urine the distillate of which gave the indigo reaction, and allowed them to remain eight days, sometimes at the ordinary temperature, and sometimes at 100° F. The distillate of these mixtures had always more or less vinous odor, and responded distinctly to the iodoform reaction, but not to the indigo; but it cannot be claimed for these experiments that they settle the question as to which is the better test.

As soon as acetone, or the acetone-producing substance, was detected in the urine, it was suspected that the symptoms in diabetic coma were caused by it, and Kussmaul early sought to settle the question by experiment. In man, doses of 6 grammes a day produced no effect. In rabbits 6 cubic centimetres, administered subcutaneously in divided doses, produced symptoms of intoxication, with stupor. The same results followed inhalation in the case of rabbits, but failed in the case of dogs. Whence Kussmaul concluded that the diabetic coma was the result of acetonæmia. Against this view there has been some reaction, Frerichs and his pupils having obtained different results in their experience, whence they concluded that there was no such thing as acetonæmia.

In the article referred to, Penzoldt has attempted to reconcile the apparent incompatibility of the view that the symptoms of diabetic coma are due to acetonæmia, with the ineffectual results of experiments and the exceedingly small amount of acetone found in the secretions. He first calls attention to the fact that the very small amount of lead found in the tissues and secretions in lead-poisoning is not considered incompatible with the view that the symptoms are caused by lead, although much larger doses are needed to produce the symptoms of lead-poisoning than the quantities thus obtained. Secondly, it makes some difference whether the poison is introduced into the system interruptedly from without, as is done in experiments, or whether it is continuously produced in the organism. Thirdly, the subsatnce in the nascent state may act more deleteriously than that which has some time formed. Fourthly, poison continuously absorbed sometimes produces a chronic poisoning which may quite suddenly assume an acute character, as delirium tremens in chronic alcoholism. Finally, we can only judge of the action of a substance when we compare its excretion with its formation, as a poison which is excreted as fast as it is produced cannot be expected to exhibit potent effects. Acetone is rapidly excreted by the lungs, and no experiment with it is complete unless this excretion be kept in view. Accordingly, Penzoldt took three rabbits of equal weight from the same litter. To one (A) was administered, subcutaneously, one gramme of pure acetone, and the animal placed under a small bell-glass. A second (B) was similarly placed without acetone. A third (C) received also a gramme of acetone subcutaneously, and was set free. In ten minutes A was restless, dizzy, dyspnœic; B normal; C stupid, and did not retract its hind legs when they were drawn out. In fifteen minutes A lay on its side, B showed scarcely any dyspnœa, C was dizzy and remained a short time on its side when put there. In three-quarters of an hour A was stupid and dyspnœic, with eyes half-closed; B began to breathe somewhat more deeply; C was still staggering, but walking. Still later the condition of A became more intensified, while C was again normal. After two and a half hours A lay at the point of death, B was strongly dyspnœic, but still strong on all its legs. The animals were then removed from the bells and revived.

These experiments were further so modified as to permit the acetone to be inhaled, with similar results. Whence Penzoldt inferred that acetone causes in rabbits continued somnolence and stupor if its excretion by the lungs is interfered with, and that while the doses required to produce these effects cannot be considered small, they cannot, on the other hand, be regarded as excessively large. Whence we have only to suppose the temporary or permanent interference with the excretion of acetone by the lungs in diabetes to be able to account in a perfectly satisfactory manner for the phenomena of diabetic coma. Such a condition may be found in the lung complications which so constantly attend diabetes. A parallel is seen in the interference by the altered state of the uriniferous tubules of the kidney, with the elimination of urea, and the consequent uræmic symptoms. At the same time, Penzoldt well says that it would be as much a mistake to ascribe all the symptoms of diabetic coma to the retention of acetone as it would be to refer uræmia in Bright's disease to the retention of urea alone. As in the latter case there may be allied substances, so in diabetes there may be substances allied to acetone which unite with it in producing the peculiar symptoms of diabetic coma.

One more point in connection with this very interesting and not unimportant subject, and bearing also on Penzoldt's experiments. It will be noted that acetone was revealed by the indigo test in six out of seven cases of pneumonia. Now in pneumonia, in which the air-vesicles are completely filled over a large portion of the lung, we can understand that the elimination of acetone is largely interfered with, much more so than in cases of phthisis. Hence, supposing it to be a normal product of tissue-change, we should expect it to accumulate in the blood, and to appear in the urine; while in cases of diabetes mellitus, in which we may reasonably suppose it to be found in abnormal amount, we should expect it to be found in greater quantity in the urine in those cases accompanied by a lung complication. Attention should be directed to these points by clinicians.

The Specific Treatment of Diphtheria and Croup.

Dr. George A. Lynn, of Monongahela City, Pa., read a paper on this subject before the last meeting of the American Medical Association, wherein he stated that the object of his paper was to show the proper method of using the bichloride of mercury as a specific in the treatment of diphtheria. The mere use of a remedy does not necessarily constitute its use as a specific. For instance if one should attempt to control a malarial fever with ¼ grain doses of sulph. of quinia given two or three times a day, it would most signally fail, and he might say that he had tried the remedy and it had failed in his hands.

So in using the bichloride of mercury as a specific in dipththeria, the dose, time of giving, and stage of the disease, are as important as the remedy itself.

"Without entering into a discussion of the pathology of the disease, I may point out what seems to have escaped the notice of most writers on diphtheria, that there are two distinct stages in the disease; one the disease proper, which lasts from three to five days, and terminates in the full development of the membrane and the generation in it of a deadly poison, the other, the effects of the absorption of this poison, which is generated in the membrane ONLY, and not in the blood, but when absorbed in sufficient quantity destroys the red corpuscles of the blood. Patients do not die in the first stages of the disease (except in the croupous form) but only from the effects of the poison absorbed from the membrane.

"Taking this view of the case to use the bichloride as a specific:

"1st. It must be given in the first stages of the disease.

"2d. It must be given in large doses, frequently repeated.

"The effect of the large doses of this remedy, given in the early stage of the disease, is to reduce the temperature, relieve pain in the head, back, and limbs, unlock the secretions, lessen the soreness in the throat; in time, to relieve the nausea and vomiting, restore the appetite; and most of all, it prevents the generation of the poison in the membrane; in mild cases it checks the formation of membrane at once, and causes what is formed to speedily disappear.

"Now, as I claim that the greatest virtue of this medicine consists in its preventing the generation of the poison in the membrane, the absolute necessity of giving it early in the disease becomes evident.

"It will take physicians a long time to find out the value of this remedy, if they persist in only trying it after everything else has failed, and their patient is in a moribund condition; yet even in such cases I have known it to prove successful.

"In using a medicine of so great power, the manner of exhibiting is of some importance. It is best given in solution, so that when excessive nausea is present, the dose may be gradually lessened and the time shortened, giving the stomach a chance to dispose of it, and at the same time keeping up full treatment. By ordering the druggist to make a solution of the bichloride in alcohol of the strength of gr. j to f.ʒj, and dispensing from this, the weighing of a grain and fractional parts of a grain is avoided. Next in importance is a pleasant vehicle in which to give it; this we have in elix. bismuth and pepsin, or elix. of pepsin. Pepsin itself has a good influence in the disease, and is said to have the property of softening the membrane.

"In a mild case of diphtheria, I give a child 3 years old 1/16 of a grain, or in a malignant case 1/32 of a grain of bichloride of mercury in a teaspoonful of elix. of bismuth and pepsin every 3 hours. To an adult I give from 1/12 to 1/8 of a grain every 3 hours.

"The manner in which this dose is borne in a bad case of diphtheria is a matter of surprise to a physician using it for the first time. It rarely disturbs the stomach, and soon allays existing nausea. I have never seen it produce ptyalism, and it seldom acts on the bowels more than is desirable. I generally order carbonate of magnesia to be given the first night, and after that the action of the bichloride keeps the bowels open. Under this treatment, when commenced early, in an ordinary case the patient will be convalescent by the end of the third day, but in more grave cases, the medicine should be continued to the end of the fifth day—it rarely needs to be given longer.

"Where the disease has made considerable advancement, and the poison of the membrane is already being absorbed, as may be the case before the physician is called, the result may not be so satisfactory, and brandy and iron should be added to the treatment.

"If we assume that this treatment is no better in results than the general method in vogue, still it has many advantages that strongly recommend it.

"There is but one medicine to be given, and there need be no confusion or mistakes. No washes or gargles are needed; no swabs or probangs to be thrust down the throat to strangle and frighten the patient, and make him wish he was dead and at peace; no steaming; no atomizing; none of these—only a teaspoonful of not unpleasant medicine and two or three hours' rest. While I hold that the corrosive chloride of mercury, given in large doses in the very early stages of diphtheria, is a specific, because, when so used, it prevents the generation of the poison in the membrane, and soon arrests its formation, yet membrane is often formed before we are called to the case, or before the remedy has had time to stop the process; and in this case it may involve the windpipe, or may be primarily formed there, causing diphtheritic croup; and a new danger arises from mechanical obstruction, for which the corrosive chloride gives no relief.

"The difficulty of breathing is common to all kinds of croup. It is as great for the time being in simple croup as it is in pseudo-membranous or diphtheritic croup. For this and other reasons it is held by good authority that the dyspnœa of croup is not due in the main or even in great degree to the mechanical obstruction of membrane in the windpipe, but is rather due to the spasmodic condition of the glottis, and of nervous origin. It is for the relief of this dyspnœa that we resort to tracheotomy, at all times a dangerous operation, and in diphtheritic croup almost hopeless. In any kind of croup the operation, if successful, only enables the patient to breathe. Its effect on the disease is rather to aggravate than otherwise. If we had a remedy that would control and relieve the spasmodic condition of the glottis in croup, we would have little need for this operation. And I think we have this in the chloride of gold. A few years ago I was using the chloride of gold, as recommended by Niemeyer in his practice, in some obstinate cases of hysteria, and observed that it had marked effect in nervous affections of the air-passages, and was thus led to try it in a bad case of diphtheritic croup, with good results.

"Since then I have used the chloride of gold in all cases of croup. In simple croup it acts as a specific, and nothing else is needed, and but few doses of this.

"The chloride of gold should be given in solution in distilled water. As it is very deliquescent and difficult to weigh, I direct the druggist to dissolve the contents of a 15 grain bottle,—as it comes from the manufacturer—in 15 drachms of distilled water, and dispense from this solution.

"A caution is necessary in administering—not to use a spoon, on account of the strong affinity the preparation has for metals, especially for silver. I direct it dropped in a glass with a little water, and as it is almost tasteless there is no difficulty in taking it. The dose may be from $\frac{1}{50}$ to $\frac{1}{20}$ of a grain every one to three hours."

A New Method of Treating Asiatic Cholera Proposed.

Dr. S. S. Todd, M. D., thus writes in the *Jour. Am. Med. Ass.*, Aug. 8, 1884:

I do not wish in this brief paper to go into the subject of natural history of this disease. Thanks to modern investigation, we seem to stand on pretty solid ground now with respect to its cause and mode of propagation, and the best means of warding off the disease, lessening the ratio of its mortality, and possibly its *fatality*—or the ratio of deaths to the number attacked.

More light is needed on the subject of the pathology of the disease, however, and especially is it needed that the experience gained in former visitations and the present advanced views concerning the nature of the disease shall give better results in treatment than have been had hitherto.

The plan of treatment here proposed, it may be said, has the perilous disadvantage of being a *proposition*—something untried. It is this fact probably that will most commend it.

The hypodermic syringe of half-drachm capacity is familiar to all, and I am inclined to think that many indulge in the futile hope that in the coming epidemic much good will be had from the use of the hypodermic syringe in the ordinary way. It does not seem to have occurred to any, however, that the capacity of this instrument may be so increased that, instead of a few drops of some fluid, quarts of water, medicated as desired, may be made to enter the circulation within a short space of time, and that the good results to be gained from the use of the instrument may depend almost solely upon its capacity to fill the depleted circulatory system rapidly with some desired fluid.

The possibility of doing this, even in cases of collapse, will hardly be questioned, and the *value* of the suggestion will we think be duly appreciated by those who have passed through an epidemic of this disease, and witnessed the torrents of serum poured forth and lost to the circulation with every evacuation of the bowels, and seen the hours of pitiless retching of the stomach as it rejected everything put into it, either to relieve the maddening thirst or to restore to the organism its wasted fluids.

Some years ago I was led to believe that good results might be gained from the use of a syringe of such capacity as would allow of the introduction into the circulatory system, hypodermically, of large volumes of defibrinated blood, artificial serum, stimulants, etc., in cases ordinarily turned over to transfusion, as well as for the use of alcoholic and other stimulants in certain other adynamic states. No favorable opportunity of testing this method of transfusion has since occurred, but within the past two years I have, in some notable cases of great prostration, tested the value of alcoholic stimulants thus administered. Two of these were cases of septicæmia—one of them after a labor, and the other following an ovariotomy.

In each of these cases rapid and considerable reduction both of pulse and temperature invariably and repeatedly followed the injection into the cellular tissue of the thigh of from 3 to 6 drachms of whisky (sometimes brandy) with an equal quantity of water, the effects lasting for about 12 hours. The force of the heart's action was always increased by the injection, the pulse losing in rapidity from 10 to 15 beats per minute and the temperature being lowered from one to two degrees—to rise again ten or twelve hours afterwards if the dose were not repeated. Both of the cases referred to resulted fatally, but in one of them I am sure that life was prolonged for more than a week.

In one case of threatened death from shock and loss of blood during an ovariotomy, the patient's life was saved by an injection of two ounces and a quarter of the above-named mixture. No ill-effects were seen to follow these large doses, and I am of the opinion that in certain cases the quantity of the alcoholic liquor might be increased with safety to two, or even more than two ounces, if sufficiently diluted. The cases tolerating so large a quantity would be those where there had been exhaustive hemorrhage, or great loss of blood serum, as in cholera.

The object to be gained by the proposed use of the syringe in advanced stages of cholera is this: that, without tasking the stomach, we may flood the circulatory system with an artificial serum that shall supply the place as near as may be, of that which is being wasted, and also to introduce in sufficient quantities alcoholic, or other stimulants, and whatever else may be indicated.

The course of treatment then to which I wish to direct attention, and with the value of which it is perhaps needless to say I am profoundly impressed, would, without going into details, be something like this: All cases in their incipiency, and all *mild* cases throughout the attack, should be treated with opiates and astringents, and *hot* water acidulated with sulphuric acid should be allowed, and urged upon the patient, to the utter exclusion of ice, ice-water, and all ice-cold drinks. Whisky, wine, or brandy may be added if the patient be much prostrated, or be suffering from fear, but in moderate quanties only. The abdomen should be covered with a large mustard poultice, and the feet should be kept warm.

In a more advanced stage of the disease, and in all severe cases, from the outset no time need be wasted with opiates or astringents, as they will do little good. Collapse is now imminent, and the hot drink should now be given more assiduously than before, and repeated again and again if the stomach reject it. The body should be kept as warm as possible with bottles of hot water or other appliances, and no rubbing allowed, if the patient can be otherwise kept quiet, as it limits the advantage to be gained from application of heat, an important consideration. Ice and ice-cold drinks, contra-indicated in all stages, are most hurtful in this; and however grateful to the patient, and however eagerly craved, should be rigorously denied, as tending to cause, or aggravate an already existing algid condition.

It is now that the hypodermic syringe is to prove useful, if at all. Large quantities of a fluid should be injected, at short intervals, composed of distilled water to which has been added a small quantity each of chloride of sodium and chloride of potassium, and such an amount of *alcohol* as may be deemed requisite, the solution to register 98° F. when ready for use. These injections should be repeated at intervals of one or two hours, the interval, the quantity of alcohol, as well as the whole amount of fluid used, to be regulated by the amount of serum waste, by the degree of prostration, and by the size, age, and sex of the patient. It may not be out of place to say here that the writer has passed through the midst of two cholera epidemics. A syringe of 4 oz. capacity may be had of Geo. Tieman & Co., 67 Chatham street, New York.

*Acute Atrophic Anterior Polio-Myelitis of Adults.**

Professor H. NOTHNAGEL thus writes in the *Med. Press*, July 30, 1884: The patient is a young woman, æt. 22, who complains of difficulty in waking. She states that up to her seventeenth year she was perfectly healthy and well developed, that she then became suddenly unconscious at a ball and remained in this condition for six weeks. If we now look at the legs of the patient, we see that they have lost their normal contour. Power of movement has not completely disappeared, but it is very limited. There is spastic contraction of the left tendo-achillis. This imperfection may depend upon two causes—(1) Upon an affection of the medulla spinalis (neuropathic origin); (2) Upon atrophy of the muscles (muscular origin). The skin is decidedly thickened; it might be anasarca, but the pressure-marks of the fingers do not remain; it is, therefore, fat. The muscular structures are, on the contrary, reduced to a minimum. As regards the upper extremities, the normal contour is retained; all movements are here possible. In the back we find lordosis and scoliosis; pressure over the sixth and seventh cervical vertebræ is painful. The spinal muscles are atrophied. The patient cannot raise herself erect, *i. e.*, without the aid of her arms; as the abdominal muscles contract well, this inability is owing to loss of power of the muscles on the anterior aspect of the thighs, and of the spinal muscles. No disturbance of sensation is observed; the other parts of the organism are sound. The bones of the lower extremities are a little behind the normal development as to length; there is a certain amount of aplasia (want of development) of the substance of the bones. We further find great atrophy of the muscular structures and marked hyperplasia of the fatty tissues from the seat to the extremity of the foot. The principal part is played by the atrophy; functional disturbance runs parallel with this. The case is one of acute anterior atrophic polio-myelitis of the adult.

It was formerly believed that this condition could only develop in children, and for this reason the disease acquired the name of spinal paralysis of children; but it has been proved that the disease may occur in grown-up people. We have

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*The substance of a Clinical Lecture delivered in the University Clinic. (Translated and abstracted from the *Allg. Wien. Med. Zeitung.*)

here to deal with a case of pronounced spinal disease, inasmuch as the pathological process is located in the grey anterior cornua. This process, the essential pathology of which is not yet clear, *i. e.*, whether the process is inflammatory or degenerative, has finally this result, that atrophy of the large ganglionic cells in the grey anterior cornua takes place; this in rare cases progresses so far that complete lacunæ are formed in the anterior substance. The ganglionic cells are replaced by connective tissue. This process may extend over large tracts of the spinal cord, but it may also be limited to isolated portions. In one case all the four extremities are affected; in another, only an arm, a ball of a thumb, or only a triceps, etc. The clinical picture which this anatomical disease affords is manifested principally in disturbance of nutrition, and, by the side of this, in disturbance of motor innervation, in paralysis. The disturbance of nutrition affects the muscular structures, and along with these, in childhood, the bones. The skin is not attacked; on the contrary, a compensatory thickening here takes place. The functional expression of the atrophy of the muscles is paresis: there is no disturbance of sensibility. When this condition developes in children we get the disease long known as essential paralysis. Heine, of Cannstadt, about the year 1840 proved that the affection was of spinal origin. It has since been shown by Charcot, Leyden, and others, the disease is due to degeneration of the grey anterior cornua. It is only for the last fifteen years that we know, and this was mainly determined by Kussmaul, that the disease does—very rarely, however—attack grown-up people. There are very considerable differences as to the rapidity of the onset of the disease. Many spinal affections develop slowly, insidiously, gradually; others, rapidly, and prove fatal quickly; or they develop rapidly and then remain stationary, so that a chronic stage succeeds the acute. According to the mode of development we apply the adjective of time, and we speak of a *polio-myelitis acuta*, *acutissima*, *subacuta*, and *chronica.*

The patient became suddenly unconscious at a ball, and lay unconscious for six weeks. We know the so-called spinal paralysis of children usually comes on very rapidly—that it is a polio-myelitis acutissima. For example, a mother puts her child to bed in the evening, and in the night she notices that it is unconscious, and when, after some hours, the child is taken up, it is discovered that it is paralyzed in every limb. The loss of unconsciousness may be completely absent; in other cases it may last some hours; in others, again, some days, and in others longer still. Upon what this symptom of unconsciousness, in a case of pure spinal disease, depends, we do not know; possibly it is an acute infective disease. The disease may attack adults in the same acute manner. It is a little striking, and the statement must be received with doubt, that the unconsciousness in the case of our patient lasted six weeks. The child, after four to six days, begins to move one or the other extremity, but emaciation during the time is striking. And now you have the picture of the disease before you.

Return of the power of movement is explained by retrogression of the anatomical process in the various localities, at one time more here, at another more there, and for this reason the paralysis is variously manifested. When the muscles are atrophied and the child continues to grow, in the place of the muscles a yellow tissue remains which is filled with fine granular contents. The bones remain behind in development, and the child's legs remain short. In progressive muscular atrophy the *panniculus adiposus* usually remains normal, whilst in this affection it becomes hyperlastic. While the prognosis *quoad vitam* is favorable; persons so affected may become eighty or ninety years old. The disease was formerly declared to be absolutely incurable; and even to-day the prognosis *quoad restitutionem* is unfavorable, and it is only in a few cases that restoration can be brought about, but in some cases improvement is possible. When a child or an adult is attacked with this disease, it will be your task as soon as the inflammatory pyrexial symptoms have passed away to treat the case on two main lines, viz., by galvanism and faradization, and by massage. The spine must be galvanized with the constant current, and the paralyzed limbs must be faradized and treated by massage. But you must here, as in other cases, continue your treatment uninterruptedly for one or two years.

Treatment of Cholera in India.

DR. H. MARTYN SCUDDER thus writes in the *Med. Record*, Sept. 6, 1884: For purposes of treatment I would divide the course of this disease into the following stages: A period of prodromes or prodromic stage; a first stage, or state of diarrhœa or chlorine; a second stage, or stage of invasion; a third stage, or stage of collapse (algid stage); a fourth stage, or stage of reaction. This last stage of reaction may be succeeded by a typhoid condition, or cholera typhoid stage, or else may pass directly into a state of convalescence. In the prodromic stage, manifested by lassitude, mental depression, chilliness, nausea, and abdominal discomfort, give ten or fifteen drops of spirits of camphor in dessert-spoonfuls of hot brandy every hour or two, but be careful not to allow any considerable quantity of stimulants to be taken. When epidemic cholera is prevalent many are affected by the symptoms just described. If the remedies I have indicated are promptly taken, I feel confident many attacks of cholera will be warded off. It is true that fear often produces these very symptoms, but the spirits of camphor in spoonfuls of warm brandy tends to soothe the fears and dissipate these symptoms, and yet does not usually disorder the digestion.

As soon as diarrhœa begins, the administration of some preparation of opium together with aromatics, camphor, and a little chloroform, is urgently called for. Two parts of "chlorodyne" to one of spirits of camphor is a very good combination, thirty drops for a dose. To be repeated as required. Another very serviceable prescription consists of equal parts of spirits of chloroform, spirits of camphor, laudanum, aromatic tincture of rhubarb, and tincture of ginger. Teaspoonful doses every hour or two according to the urgency of the case until four or five doses have been taken. In alteration with either of the combinations, an aromatic sulphuric acid mixture may be given to advantage. A popular formula is as follows:

℞. Acid. sulphuric. aromat. . . . . ℥j.
Tinct. opii deodorat. . . . . ʒvj. vel. ℥j. M.
Sig.—Twenty or thirty drops in water every hour or two.

I think it is important to administer these remedies hot, unless they create nausea. The hot water, or morphine combined with chloral, should be administered by hypodermic injection, as the severity of the case may demand. Either of the following formulas may be chosen for exhibition every half hour or hour just after a spell of vomiting:

℞.	Chloroform.,	
	Tinct. capsici,	
	Tinct. cannab. ind.	āā ♏ xxx.
	Acid. hydrocyanic. dil.	♏ xx.
	Ether	♏ viij.
	Spts. menthæ pip.	♏ xv.
	Syrup sassafras comp.	ad ʒ j.

Sig.—A small teaspoonful every half hour or hour.

℞.	Spts. ammonia aromatic.,	
	Spts. of chloroform	āā ℥j.
	Tinct. of capsicum,	
	Compound tinct. of cardamon,	
	Tinct. of ginger	āā ʒss. M.

Give in the same doses as the above.

A mixture of aromatic powder, gum arabic, and acetate of lead may also be given alternately with either of these, if desired. In any case a mustard plaster should be applied over the stomach and abdomen, but not left on too long; and, if required, enemata of eight or ten grains of acetate of lead may be given after each evacuation. I think it is important to bear in mind that some preparation of opium or morphine, or morphia combined with chloral, is the chief remedy for cholera, and the surest agent we can use to arrest the progress of the disease. When called, therefore, to a case already in the stage of invasion, I believe morphine, or morphine and chloral, should be administered hypodermatically without delay, in order to get these sovereign remedies into the system as soon as possible; for if we can arrest the disease before the patient becomes collapsed, his chances of recovery will be very greatly increased. Caution must be exercised, however, when this form of treatment is pursued, for narcotism is easily induced by repeated hypodermic injections, whereas very large doses of opiates can be given in this disease, by mouth and rectum, with comparative impunity. The strength of the solution usually employed for injection is morphine, gr. ijss. or gr. iv., with chloral hyd., ʒ ijss. or ʒ iij. to the ounce of water. Inject twenty or thirty minims.

The hypodermic use of morphine and chloral is, of course, contraindicated when the stage of collapse has become well developed. During this stage it is most essential that the patient should be kept perfectly quiet, and in the horizontal position. No violent rubbing should be allowed, but I have found it beneficial to gently rub the limbs and extremities with hot oil. To allay thirst let the patient suck ice frequently. Carbolic acid water or simple acidulated effervescing drinks may also be given by the tablespoonful. It is unsafe to allow the patient to drink any fluid whatsoever in large quantities. In this stage, especially when the acts of vomiting and purging have become less frequent and the algid state well developed, very small quantities of stimulants are useful, but they should be given with great caution, lest vomiting should be provoked. Stimulating enemata may also be given, but where the stomach is intolerant it is often better to inject small quantities hypodermically. Experience teaches us, however, that anything like the free use of stimulants in cholera is uncalled for and exceedingly harmful. I have sometimes found small doses of both atropia and strychnia, administered by hypodermic injection, apparently effectual in bringing about reaction. Amyl nitrite, by inhalation, may be given, but it seems to exercise very little permanent beneficial effect. Intravenous administration of milk and salines may be resorted to, but the reaction thus produced is not generally of a permanent character, so that many of those who have given this method a fair trial have abandoned it.

Of late years, in Southern India, careful experiments have been carried out in reference to the value of impregnating the atmosphere of the sick room with sulphurous acid, by the burning of sulphur. The result has been that this procedure has been introduced as part of the treatment of cholera. I have on several occasions, carefully tried this plan myself, by subjecting the inmates of two different cholera sheds to exactly the same conditions and treatment in every respect, with the exception that in one the atmosphere of the shed was kept impregnated with sulphurous acid, and in the other *not*. I have always found that the proportion of recoveries was considerably greater in the shed where sulphur was burned. I therefore now always proceed to burn sulphur in the patient's room as part of the treatment of cholera, and consider it an important adjuvant.

The atmosphere should not be so highly impregnated as to cause the patient or attendants to cough violently.

Sulphurous acid thus applied is not only a useful remedy, but it is also believed to decrease the liability to the propagation of the disease, and to its contraction by the attendant.

During the stage of reaction, great care should be exercised. Vomiting often continues, and the normal absorbing power of the stomach and intestines is but slowly restored. Liquid nourishment by the spoonful should be most cautiously given ; well salted broth and milk, given as hot as possible, and not too frequently, are the only forms of food admissible until the enfeebled stomach shows signs of recovering its tone. Peptonized beef-tea and milk are frequently well borne, if carefully prepared (two or three tablespoonfuls). Each dose may be sweetened, if desired. The patient should be made to lie down, kept perfectly quiet, covered with heated blankets, and dry heat applied to the surface of the body, especially to the extremeties, by means of hot bottles, heated flat-irons, etc. In India the administration of calomel to any extent has lately been discouraged, one or two small doses may be given if thought best, but not more. As soon as frequent vomiting commences—or the stage of invasion becomes established, the combinations containing opium which have been mentioned, had better be discontinued, and either of the following mixtures given in teaspoonful doses at intervals, after a spell of vomiting.

At the same time, also, morphine, so as not to nauseate the patient. If vomiting persists, the following emulsion may be given, if deemed best:

℞.	Acid. carbolic		gr. vij
	Bismuth. subnit		ʒij
	Mucil. acaciæ		
	Aqua menth. virid	āā	℥j.

Sig.—A teaspoonful every hour or two.

But in this stage it is good treatment to let nature do the work of restoration, and give as little medicine as possible. We must have in mind, however, that the kidneys must be assisted to resume their functions, and for this purpose mild diuretics, such as potass. nitras., should be carefully administered. If fever supervenes, it is apt to be of a typhoid character: a combination of iodine and carbolic acid then exerts a beneficial effect. A popular formula is as follows:

℞.	Acid. carbolic	gr. iijss
	Tinct. iodi	gtt. xv
	Aquæ menth. pip.	℥iv.

M. Sig.—A tablespoonful every two or three hours.

To relieve restlessness and insomnia, potass. bromid. is often useful.

If the attack of cholera is arrested before the patient becomes collapsed, the state of convalescence will probably be of short duration, and the health soon be restored. If, however, the patient is rescued after being in a profound state of collapse for a length of time, the convalescence will generally be protracted.

Symptoms, Diagnosis, Prognosis and Treatment of Fat Embolism.

Dr. Roswell Park thus writes in the *N. Y. Medical Journal*, August 16, 1884:

Symptoms.—*general condition:* Debility and malaise rapidly increasing. Countenance pale, becoming anxious, then distressed, and at last the face is cyanosed, with pupils contracted. Reflex excitability is gradually lost. Patients are usually at first excited, then wildly or quietly delirious, then somnolent, and finally comatose. In rare cases, depending on the amount of cerebral disturbance, vomiting, spasms, or paralysis, may precede death.

Respiratory Organs.—The respiration rate gradually increases from the normal up to fifty or even sixty to the minute, breathing becoming stertorous. Dyspnœa, increasing in intensity until it becomes agonizing, sometimes marks these cases. Cheyne-Stokes respiration may also be observed in the earlier stages. At the last there may be foam, sometimes bloody, from the mouth, as in œdema pulmonum; or during the course of the symptoms there may be hæmoptysis. With the stethoscope large bronchial râles are heard, which change until they becomes tracheal

Circulatory System.—The pulse is weak, frequent, and irregular, fluttering toward the close. The temperature range is by no means constant; usually it is at first below the normal, and may in some cases remain so; in other cases it fluctuates from hour to hour, and may vary from the normal by wide limits either above or below. In other words, its range is atypical.

The foregoing constitutes a brief summary of the more important symptoms, few of which are constant and none pathognomonic. If, however, along with these fat or oil globules can be detected floating on the urine, the diagnosis may be easily made; and when the above symptoms are clear and a majority of them evident, and are accompanied by a history of accident or operation, we shall seldom err in diagnosing fat embolism.

As a rule, they set in within thirty-six to seventy-two hours after the lesion causing them. I had supposed that the case which I shall report at the close of this essay had developed the symptoms and run its fatal course in less than the shortest time on record, until later experience and a closer study of the literature of the subject convinced me to the contrary. A French surgeon (Déjérine) has reported a case fatal within *seven* hours; and, if my diagnosis of another case is right, which unfortunately I could not verify by an autopsy, I was an interested spectator of a case that proved fatal in a little shorter time even than this.

DIAGNOSIS.—In general, the diagnosis is to be made by eliciting a history of violence or of operation, by the sudden and painless onset of the symptoms above given within the average length of time, by a lack of other and sufficient cause therefor save those furnished by a history of some lesion, by the negative result of ordinary physical examination, and by the absence of paralysis and of all the usual evidences of central lesions of the nervous system and of valvular disease of the heart. Uræmia, albuminuria, and diabetes can be excluded by examination of the urine, while if oily globules are found upon it they will speak conclusively for fat embolism.

Inasmuch as it is usually in surgical cases that we have to encounter this con dition, it is from other surgical affections that we shall most often have to differentiate it. The symptoms usually come on too rapidly for those of septic trouble, although I can imagine that a mild and non-fatal form of fat embolism might be mistaken for septicæmia. As distinguished from shock, there is this point to be noted: that, by the time the symptoms of embolic disturbance are at their height, all, or nearly all, shock should have subsided. Thrombosis, as from phlebitis, and embolism from other causes, may produce rapidly fatal results; and here is the diagnostic sign, in that they are usually fatal in less time than fatty emboli require to lead to the same result.

With a proper appreciation of the possibilities and probabilities of its occurrence, fat embolism is not likely to be overlooked very often, and when it is it will be in those fortunate cases where recovery follows and the question of diagnosis is, if possible, one of minor interest.

PROGNOSIS.—This must be in proportion to the extent of the injury, the proximity of the lesion to the heart and lungs, and the general condition, age, and physical characteristics of the patient. In extensive lacerations and fractures there are greater possibilities for entrance of fat into the circulation, as well as for constant increase of the amount.

Realizing that a slight amount of fat embolism occurs in almost every fracture in adults, we shall be prepared to understand the symptoms of restlessness, slight agitation, respiratory and circulatory distubance, which can often be noted by a careful observer after a simple fracture, and understand their exact import while still waiting confidently for a speedy cessation of the same.

But, when the symptoms become severe, a most guarded. and, generally speaking, unfavorable prognosis must be given. If the heart can be given sufficient vigor and endurance to continue pumping the blood with its burden of fat through the pulmonary capillary circulation, then the most imminent danger may be escaped. This it may do until either the capillaries of the brain become stopped up and its source of motive power thus paralyzed, or until the general capillary circulation is similarly obstructed, when it must finally stop, incompetent for the task.

Duration of Symptoms.—The duration of the grave symptoms may vary considerably. When the capillaries of the brain become quickly plugged, death will take place more rapidly than when the lungs are chiefly affected. In the former case a few hours—two to six—may end the patient's life. If the circulation through the lungs be most at fault, the patient may die in from six to forty hours. When well-marked evidences of fat embolism are present, but are followed by recovery, the worst of the trouble will probably be over within forty-eight hours after it began.

Treatment.—Obviously the proper treatment will be to augment by every judicious means the power of the heart to force the load of fat through the venous and into the arterial system. If this can be done, the fatty matters will probably be emulsified or saponified by the alkalies in the blood.

The more the fractured or injured part is disturbed, the more fat will presumably enter the circulation. Consequently the injured part should be kept absolutely at rest. When a case of injury is complicated by delirium tremens, this is much more difficult, and may even justify the use of opiates when they would otherwise be contra-indicated. At all events, immobilization is always indicated as a precautionary measure.

As concerns internal treatment, the most powerful cardiac stimulants are called for—e. g., alcohol, digitalis, strychnine, ether by the mouth or under the skin. In fact, in this as in other respects, treatment must be symptomatic. On purely theoretical grounds, I should be strongly inclined to suggest the administration of oxygen, by inhalations of the gas, as strong as could be well borne.

Therapeutic Notes.

For the following formulæ we are indebted to the *Medical Bulletin:*

Formulæ used in ophthalmic practice at the German Eye and Ear Infirmary of Philadelphia, by M. Landesberg, M. D.:

Catarrhal conjunctivitis, in which inflammatory symptoms are slight, with but little secretion:

℞.	Acidi tannici	gr. ij	
	Aquæ opii	ʒiij.	M.

S. Two drops into each eye morning and evening.

Same with more pronounced symptoms of inflammation:

℞.	Zinci sulphatis	gr. j	
	Tinct. opii crocat.	gtt vj	
	Aquæ destillat.	ʒiij.	M.

S. Apply as the above.

Against the neuralgic pains and photophobia:

℞.	Hydrarg. præcipit. albi	gr. x	
	Extract. belladonnæ	gr. v	
	Unguenti emollient	ʒiij.	M.

S. Use a small quantity as large as a pea and rub into temple and forehead thrice daily.

In cases with highly pronounced swelling of the mucous membranes:

℞. Plumbi acetatis . . . . gr. j
Aquæ destillatæ . . . . ʒiij. M.
S. A few drops between eyelids thrice daily.

Or:

℞. Plumbi acetatis . . . . gr. j
Petrolati . . . . ʒij. M.
S. To be brushed between the eyelids twice daily.

Also:

℞. Lapidis divini . . . . gr. ij
Aquæ destillat. . . . . ʒiij
Liquor. plumbi subacetat . . . . gtt. iij. M.
S. Three drops between the eyelids twice or three times daily.

Purulent conjunctivitis:

℞. Hydrarg. bichloridi corros. . . . . gr. 1-6
Aquæ destillat. . . . . ℥iv
Mucil. semin. cydonii . . . . ʒij
Tinct. opii crocat . . . . gtt. vj. M.
S. Apply for ten minutes to the closed eyelids four times a day.

Or:

℞. Argenti nitratis . . . . gr. v
Aquæ destillat . . . . ℥v. M.
S. As the above.

Phlyctenular conjunctivitis, in cases with marked inflammation:

℞. Extracti opii,
Etracti belladonnæ . . . . āā . . gr. v
Aquæ destillat. . . . . ℥iij. M.
S. Apply to the closed eyelids for ten to fifteen minutes three times daily.

After the inflammatory symptoms have subsided:

℞. Hydrargyri chloridi mit. . . . . ʒij.
S. To dust into the eye from a camel's-hair brush.

Or:

℞. Sodii biboratis . . . . gr. ij
Aquæ destillat . . . . ʒiij. M.
S. Three drops into each eye twice or three times daily.

Or:

℞. Aluminis pulv., ... gr. ij.
Aquæ destillat., ... ʒiij
S. As the above. M.

Or:

℞. Tinct. opii crocat., ... f.ʒj
Aquæ destillat., ... ʒiij
S. As the former. M.

Affections of the cornea—Phlyctenular keratitis in cases with marked symptoms of inflammation:

℞.	Ext. opii,			
	Ext. belladonna,	āā	gr. v	
	Aquæ destillat,		℥iij	M.

S. Apply to the closed eyelids for ten to fifteen minutes three times daily.

After subsidence of the inflammation:

℞.	Hydrarg. chloridi mit.	ʒij

S. Dust into the eyes with camel's-hair brush once daily.

Ulcers of the cornea:

℞.	Atropinæ sulphatis,	gr. j.	
	Aquæ destillat.,	ʒiij	M.

S. One drop into the eye every two hours.

Or:

℞.	Eserinæ,	gr. j	
	Aquæ destillat,	ʒiij	M.

S. One drop in the eye four times daily.

Opacities of the cornea:

℞.	Olei morrhuæ,	ʒij

S. Rub into the eye twice daily.

Or:

℞.	Iodoformi oleici,	ʒj
	Petrolati,	ʒij

S. As the above.

Old and tried formulæ from our formulary:

PILE OINTMENT.

℞,	Pulv. opii,			
	Pulv. gallæ,			
	Plumbi acetat	āā	℈. j	
	Cerati simp.,			
	Ungt. picis liquid.	āā	℥ss.	M.

S. Apply night and morning after bathing the parts with cold water.

COMPOUND INFUSION OF RHUBARB AND GENTIAN FOR DYSPEPSIA.

℞.	Rhei cont.	ʒijss
	Gentianæ cont.	ʒij
	Cardamom. cont.	ʒij
	Aquæ	℥vj
	Spirit. vini gallici	f℥ij.

Macerate for 48 hours, strain or express or displace; then add potass. carb. ʒj. S. A tablespoonful with water three times daily, half hour before meals. (A drachm of tinc. nuc vomicæ is an excellent addition to this mixture.)

TINCT. KINO COMP. (an excellent diarrhœa mixture).

℞.	Kino,	ʒiv	
	Opium,	ʒiv	
	Cochineal,	ʒiv	
	Camphor,	ʒiij	
	Cloves,	ʒiij	
	Aromatic spirits of ammonia,	f.ʒiv	
	Alcohol dilute,	Oiv	M.

S. A teaspoonful every 3 to 4 hours.

MEIGS'S ANÆSEHETIC OR CHOLERA PILLS.

℞.	Morph. sulph.,	gr. vij	
	Camphoræ,	gr. xx	
	Ol. cajuputi,	gtt. x	
	Pulv. tragacanth.,	gr. v	
	Extract. gentian.,	gr. xv	
	Syr. acaciæ	q. s	M.

Et in pil, No. C. divide. S. One two or three as a dose every 10, 15 or 30 minutes until relieved. (These pills have proven of great value during a former epidemic of cholera in this city).

TINCTURA TONICA (Pancoast).

℞.	Cinchon. cal. cort.,	℥j
	Cort. aurant.	℥ss
	Flor. chamomilæ,	℥j
	Absinth.,	ʒij
	Cardamomi,	ʒij
	Spirit. vini gallici,	Oj

M. l. a. Dose a teaspoonful to a tablespoonful t. i. d.

TINCT. DIGITALIS COMP. (Pancoast).

℞.	T. digitalis,		
	T. Scillæ,		
	Spirit. æther. nitros.,	āā ʒij	
	Aquæ camphoræ,	℥i	M.

S. A teaspoonful as a dose.

RUSSIAN CHOLERA DROPS (Hartmann).

℞.	Piperini,		
	Morphinæ. acet.	āā gr. vij	
	Acid. acetic.	gtt x	
	Ext. nuc. vomic.	ʒss	
	Spirit. vini,		
	Tinct. myrrhæ,		
	Tr. moschi	āā ℥j.	M.

S. 10 to 20 drops every 13 minutes in hot tea or coffee.

SCUDAMORE'S GOUT MIXTURE.

℞.	Magnesii sulph.	℥ss
	Magnesiæ ustæ	ʒiss
	Syr. simpl.	℥j
	Aquæ menth. virid.	℥v
	Vini colchici	♏. xl.

S. A tablespoonful every 3 or 4 hours.

A Case of Diabetes Treated by Pilocarpine.

Dr. T. Cawley Eager reports the following case in the *Lancet*, August 16, 1884:

T. H——, a prison warder, aged forty-three years, first consulted me on January 1st, 1882. I had known the patient for some years, and was much struck by his altered appearance. When I last saw him, some six or eight months before, he was a healthy, robust-looking man, but he had become pale and wasted and had a tired and worn look. His previous history was good till November, 1881, when he was under treatment for an abscess in the right hand, which was followed by boils, more or less severe in character, about the body generally, and since that time he had been getting thinner and weaker. His symptoms in January, 1882, were a feeling of failing health, great thirst, and a frequent passage of urine; this disturbed him several times during the night. The appetite had been better than usual, but the food seemed to do him no good, for he had been constantly growing thinner, his weight now being 179 lb., against the normal weight 222 lb. On questioning him more closely, he told me he was passing sixteen pints of urine in the twenty-four hours, that he had entirely lost all sexual appetite and power, and that he felt utterly weary and worn out; in fact, the man's appearance, as he lolled in a chair, with rounded shoulders and drooping head, quite bore out his statement. The skin was dry and harsh, the tongue red and glazed, the mouth dry and clammy, the gums and lips covered with sticky mucus, and the bowels confined; the sight, however, was not affected in any way, his vision being perfect. On examining the urine, I found the specific gravity to be 1040, and containing, as shown by Trommer's test and subsequently verified by Roberts' fermentation method, an abundance of sugar.

I ordered a diet of butcher's meat, poultry, and fish; green vegetables, such as cabbage, spinach, and cauliflower; cheese; eggs, especially the white of the egg; Van Abbott's gluten bread, with or without butter; tea, with a little milk or cream, and sweetened with glycerine if necessary; seltzer, soda, or potash water, with five ounces of whiskey or brandy; and also claret. The medicinal treatment was as follows: One-twentieth of a grain of hydrochlorate of pilocarpine and one grain of sulphate of potash, to be placed dry on the tongue three times a day; five grains of pepsina porci and twenty minims of dilute hydrochloric acid, in an ounce of peppermint water, to be taken three times a day. A soap-and-water enema to be used daily if the bowels are not opened.

Under this treatment the patient began quickly to improve; within a month there was a marked lessening of the quantity of the urine passed, and of the amount of sugar it contained, and also a gain of 7 lb. in weight. The pilocarpine powders were taken regularly for six months, and the pepsine mixture for nine months, when both were stopped and no further medicines were given. The patient was seen at gradually lengthening intervals until July, 1883. The diet had been persevered with until this date, when the gluten bread was discontinued, brown bread or crusts of a well-baked loaf being substituted. Cocoa was allowed, as also a few turnips and carrots, and if the symptoms did not return in a month potatoes in moderation were to be added; but no sugar was permitted to be taken. Up to March of the present year the improvement had continued, the weight being then 207 lb., and the urine normal both in quantity and quality;

all harshness of the skin had disappeared, the sexual appetite and power had returned, and to all intents and purposes the man was well.

Remarks.—This case at the commencement appeared to be a most unfavorable one; indeed, I did not hesitate to tell the patient that I thought most gravely of his condition. Fortunately for him he was most conscientious in carrying out the course of treatment I advised him to pursue, and did not relax it except when I gave him permission. It will be observed that no preparation of opium was given, for though codeia undoubtedly has the power of reducing the quantity of urine, it does so very frequently at the expense of the appetite, for the patient will often be found to become weaker and lose weight by its continuance. My reason for pursuing the treatment I adopted was by means of the pilocarpine to relieve thirst by promoting salivation, and thus diminish the quantity of urine, thereby increasing the weight and hence restoring bodily vigor. One of our great troubles in diabetes is the difficulty in getting patients to persevere in a treatment so monotonous, so that one rarely has a chance of recording an apparent recovery, especially in cases where there is so much loss of weight and such a quantity of sugar excreted.

Hay Asthma—Can It Be Relieved?

Dr. William Judkins says in the *Med. Record*, Sept. 6, 1884: "I feel that I should be sadly derelict of duty did I not give to the profession, and through them to the laity, my successful treatment of this obstinate and distressing complaint. Though only the record of one case, the result is so gratifying to the patient, her family, and myself, that I feel justified in sending these few lines regarding it, in hope of benefiting others.

"Mrs. ——, aged twenty-eight, married, mother of two children, the youngest four and a half months old. Has been subject to an annual attack of hay fever for fourteen years, and frequently with complications of a severe character. Last year she suffered an attack of bronchitis during the latter part of the asthmatic stage, that came near proving fatal. Convalescence slow. This case first came under my charge in 1880. The attack that year was aggravated in a measure by pregnancy. The only thing at that time that gave any relief was "milk punch," in the proportion of whisky, 2 oz.; milk, 8 oz. The relief obtained from this was only temporary, when more would be administered; but at no time was intoxication produced, though the remedy was given for several days in succession. In 1881 a reputed " hay-fever resort "—Oakland, Md.—was tried for a part of the season, but no benefit was derived, the attack being fully as severe as at any previous time. 1882 and 1883 were equally as bad, the complication of bronchitis spoken of above coming on last year, which almost caused death. This year prophylactic treatment was commenced, some two weeks before her expected attack, of valerianate of zinc, gr. j., and pill assafœtida co., gr. ij., combined in capsules, one a. m. and p. m., as recommended by Dr. Morell Mackenzie, of London. It disagreed with her stomach, and was discontinued for three days and then again taken with no bad effect. For five days after her usual time for the appearance of the dreaded affection, all was serene. The night of the 20th inst. difficulty of breathing to a limited extent set in. My attention had been called to a case of bronchial asthma who obtained relief from the use of acid hydriodic, and I immediately ordered my patient to commence its use early on the morning of the next day, the 21st. The effect, in conjunction with counter-irritation in the shape of Rigollot's mustard leaves at the wrist-joints, *was simply magical;* breathing became more and more easy as she continued the remedies. A thunder-storm came up that night, twelve hours after commencing the medicine, and for half an hour she was somewhat "stuffed up," as she expressed it, but had a good night's rest. Ever since then she has been easy—now a week—but is exercising all precautionary measures against taking cold, for fear of a relapse.

"I can truly say that about every remedy suggested and recommended from the time that Rostock first wrote on the subject, in 1819, had been tried, but nothing has ever given the relief and sense of comfort that this did. One word more and I am done: the form of administration was that of the syrup—a teaspoonful every hour or two, until relief. If necessary double the dose. The syrup, as prepared by Mr. Gardner—Schieffelin & Co.'s chemist—was the special brand; though where that is not accessible, I imagine the regular acid of the dispensatory on a lump of sugar, gtt. 3 to 5, would be equally as efficacious. The mustard leaves are applied as soon as the first dose is given.

"Since commencing the acid treatment, his brother, Dr. C. P. Judkins, has prescribed it in another case, that of a married lady who had suffered intensely with the asthmatic symptoms, with perfect relief, that so far has been continuous, and as in my own patient, bids fair to continue so.

"The capsules were discontinued when commencing the use of the acid."

The Treatment of Cholera.

Dr. Johnson Martin thus writes to the *London Med. Times*, August 2, 1884: In 1848 and 1849 many different modes of treatment were tried, and notwithstanding all the researches that have been made since, there is no fixed plan of treatment adopted by the profession. Many eminent medical men have placed their valuable lives in danger, and worked hard to find a remedy; but the only means known of preventing the disease and checking it are those adopted by Sir Guyer Hunter and his staff in Egypt—isolation and cleanliness, pure air and good water, and especially early medical attention and good nursing. We have been taught by sad experience that impure water and filth favor all epidemic, endemic, and contagious diseases, and increase their virulence.

During the epidemic of 1849 I was requested to take charge of those suffering from cholera and diarrhœa in the townships of Westhoughton, Over Hulton and Lostock. These townships were very free from stagnant and filthy water, and although I was kept busy night and day for six weeks, I had only two deaths from cholera; whereas in the adjoining township of Hindley, the water was very deficient, and a brook which *took in the sewage* from houses on both sides passed through the village. The disease in this village was very virulent, and many deaths took place. Isolated cases occurred near this spot. A committee of gentlemen sat here night and day to give out blankets, food, and other necessaries. Five medical men were stationed in the village. Isolated cases of death took place in the immediate neighborhood of the village. Other cases were treated successfully in the more healthy portions of the township, where pure air, good water and proper attention could be had. I found the most favorable symptom was the excretion of bile in the motions, and I adopted with success the calomel and opium treatment in doses of two grains to one grain, or two grains to half a grain for an adult, together with a saline mixture. Properly prepared sago-gruel and brandy, toast water, coffee or cocoa, or milk and water in equal parts, boiled and allowed to get cool. Hygiene is too much neglected. The food and drink are quite as important, and require quite as much attention as the medicine, also the immediate removal of all discharges. I believe I was instrumental in saving many lives by advice as to preparing and administering food and drink. I am convinced that good nursing is quite as necessary in cholera as medicine. I have seen patients almost pulseless for hours, the legs and arms cold blue with violent cramps, who after many hours rubbing with warm flannels, and giving gruel and brandy in small quantities, recovered, and some are now living who were in that state in 1849. It has been stated that many of the deaths which take place at Toulon, are from the subsequent fever. No doubt some of these cases are attributable to giving opium without calomel, thus checking the natural secretion from the liver. The acid treatment recommended by the College of Physicians of Dublin, was used in many cases in 1849 by some of my colleagues, but was abandoned and the treatment adopted by me resorted to with greater success.

Cerebral Hemorrhage Simulating Opium Poisoning.

At a meeting of the Cambridge Medical Society (*Lancet*, July 19, 1884), Mr. Roper related a case of cerebral hemorrhage simulating opium poisoning: Mrs. W., aged sixty, had for many years suffered from renal stricture, for the relief of which she had been accustomed daily to use laudanum by enemata, using about sixteen ounces during the fortnight. About six o'clock p. m., on Thursday, February 28th, she complained of feeling ill, different from anything she had ever before experienced, with pain at the back of her head and giddiness. She appears to have retched, although she did not actually vomit. She made several ineffectual attempts to swallow tea. Mr. Roper saw her about twenty minutes after nine, when she was in a state of profound coma. Upon inquiry, he was informed that she had been unconscious since about eight o'clock. The limbs were flaccid, the eyelids closed, and the mouth open. The breathing was infrequent and noisy; the pulse full, forcible, and between 70 and 80 a minute. The carotids pulsated visibly. The pupils were minutely contracted, and sensibility was in abeyance. Towards the end the respirations became still less frequent, the pulse intermittent, and finally very feeble, but continuing to beat for two minutes after respiration had ceased. She died about ten o'clock. The post-mortem examination was made at a quarter to five on the following day. Rigor mortis had set in. The brain was removed and the membranes found much congested, and there was an area of great congestion upon the surface of the brain in the position of the left parietal eminence. There was a clot of the size of a large walnut occupying the centre of the right cerebellum. Mr. Roper brought this case before the Society, as the symptoms bore so close a resemblance to those which occur in opium-poisoning, and the case was therefore interesting from a medico-legal point of view, and as showing that it is not wise to place too much reliance on circumstantial evidence. This case differed from one which came under his notice two years ago, in which he found a small clot in the pons Varolii: in that consciousness was much longer retained, and the pulse remained full, regular, and firm till nearly the end; whilst in the other case, profound coma occurred almost immediately, and the pulse was extremely feeble and rapid.

The Rational Treatment of Asiatic Cholera.

Dr. J. R. Uhler, thus writes in the *Jour. Am. Med. Ass.*: In an article upon Asiatic Cholera, printed in this journal August 9th, among other things hypodermic injections of water, or artificial serum, into the areolar tissue, are suggested, in quantity sufficient to supply the waste from the bowels. This I think useful treatment, but the method of applying it does not seem to be the best, since the quantity of fluid needed would, if used in a few places, distend the tissues under the skin to such an extent as to produce large cavities, abscesses, and much discomfort, and if only a small quantity were injected in each place so many punctures would be required as to render it highly objectionable to most patients. A better plan it seems to me (which I employed to nourish a patient who could not swallow), would be use two or four hypodermic syringes deprived of their pistons connected by soft rubber tubing, with a reservior or reservoirs similar to the aspirator, without valves or with valves reversed, containing the fluid, and insert the needles in the loose areolar tissues of each of the extremities, and let them remain. By this means the tissues will be continually bathed with the serum filling the tubes by natural flow, care being taken not to elevate the reservoirs too high, so as to produce much pressure, and the liquid could then be uninterruptedly absorbed from the four points.

Another plan which, from doing all the work at once, and from the situation where it is applied, seems preferable to a surgeon, is to inject, and gently fill, the *peritoneal cavity* (by the aspirator or other instruments) with sterilized, artificial serum at the temperature of the body, thus bringing the fluid in contact, like ascitic fluid, with the other side of the greedy intestines, where it will act by pressure, slightly diminishing the lumen of the bowels, and can be absorbed to prevent the tarry condition of the blood, and also by exosmosis dilute, and wash away, when the bowels are moved, those low forms of life that are said by Koch to be the cause of the disease.

Treatment of Locomotor Ataxia.

Dr. Muller claims to have had a measure of success in his treatment of this affection. The diet, he says, should be strengthening. Coffee, strong tea, and undiluted alcoholic beverages are forbidden. In the medicinal treatment a pill is used composed of $\frac{15}{100}$ grain of nitrate of silver and 1½ grain of extract of ergot. The dose is one pill three times a day, and is gradually increased to three pills three times a day. After about twenty grains of nitrate of silver have been taken, the pills are discontinued for three weeks, when their administration is then resumed in the same way. The treatment may extend over five or six months. The author does not believe that the disease is often of syphilitic origin, and never uses specific treatment unless he can discover unmistakable evidences of syphilis. Electricity is often useful, but galvanization of the medulla should be practiced as well as that of the cord. Faradization of the skin by means of the brush electrode, either alone or combined with galvanization of the nervous centres, may also be of advantage. The author condemns hot water or vapor baths as being positively injurious. Cold baths are also contra-indicated. The proper temperature for a bath is 84° to 86°, and the patient should remain in the water for from three to five minutes only. Massage may prove to be of use, though data on this point are wanting. Stretching of the longer nerve-trunks is a dangerous and unwarranted procedure. For the pains Dr. Müller makes local applications of a liniment consisting of veratria, four grains; chloroform, half an ounce; and oil, one ounce. For the gastralgic crises he uses strong faradization with a brush over the epigastrium. Ocular paralysis is treated by the continued current. For the relief of vesical spasm, he gives pills containing one and a half grains of the extract of cannabis indica.—*La France Mèdicale*, July 31, 1884.

Primary Rheumatic Carditis.

Dr. E. A. Cobleigh thus writes in the *Cincinnati Medical News*, Aug., 1884: In reading a recent work on rheumatism, I find the author says that, "as yet, though it is highly probable cardiac affections of rheumatic character may precede, accompany at the outset the joint troubles, or possibly exist as the only rheumatic manifestations, still the number of cases going to prove this fact is not yet sufficient to establish a scientific truth." Wherefore it may be of interest to your readers for me to report the following case as bearing directly on this subject, and adding one to the already existing list of cases which go to prove the foregoing assertions.

May 11, 1884, I was attending a case of tedious but uncomplicated labor, when a young fellow, just about grown, was brought to the residence where I was detained, by his father, who called me out to prescribe for him. He was complaining since supper the previous night of utter loss of appetite, tongue slightly coated, some nausea, very slight increase of temperature, pulse rather quick but weak, with very slight præcordial oppression and heaviness, but no respiratory disturbance, and no intra-thoracic signs of actual disease there, as developed by auscultation. Thinking the attack one of acute indigestion, I prescribed a few simple remedies appropriate for that condition, and dismissed the patient. I will add here that I knew the youth well, am his family physician, and knowing him to be a stout boy ordinarily, with no previous heart or lung disease, and no admitted cause for the ailment then existing, I expected him to be sound and all right in a day or two at most.

About 3 p. m. (the first meeting between us was near 5 a. m.), I was sent for to visit him, and found the boy with high fever, bathed in perspiration, suffering great oppression about the heart, pain over sternum, labored respiration, and the chest walls heaving under the force of the excited cardiac beat. He had chilly sensations three or four hours previously, but no pronounced rigor. Insisted that he "was choking to death." Now there was no trouble in detecting a very marked endocardial murmur, but if any friction sound occurred, it was drowned by the intensity of the sound aforesaid, and no other physical signs existed pointing to involvement of the pericardial membrane. But from all of the symptoms collectively, I diagnosed co-existing endo- and peri-carditis. The most careful questioning failed to elicit any history of rheumatism in the past, affecting any member of the family. Nor were there then any indications, however slight, of a rheumatic constitutional disease in my patient, except perspiration and the urinary condition, and the latter at least might have resulted solely from the fever. The weather was not and had not been such as stands in a supposed causative relation to rheumatoid seizures, and I could not possibly see any basis on which to build a theory of rheumatic carditis, though I suspected it, and stated my suspicions to the boy's parents, who were very intelligent people; and in this shape I left my patient, after prescribing such (non-specific) remedies as I considered indicated.

At 11 p. m., the boy's father called at my house to ask re-direction about the remedies to be given during rest of night, as part of my directions had been misunderstood or forgotten. "There is no further doubt about that being rheumatism," was his first remark. "Within the last two hours his ankles have swollen stiff, and he can't bear to have them moved or even touched." These statements I verified by personal inspection, demonstrating to my entire satisfaction the well marked existence of acute rheumatic arthritis. Later the left knee and hips were slightly involved, but only slightly and within a few hours, for he was at once put on the free use of salicylates and an alkaline course, which controlled the arthritic manifestations within twenty-four hours. He now admitted falling out of a capsized boat about a week before his seizure, by which mishap he was wet to the skin. He went home and changed all of his clothes except his shirt, and this he retained, because he could not get a dry one without telling his mother of the accident, and this he would not do, having been previously ordered to keep away from the creek.

The medicines first used were persevered in with moderate decreasing doses for about a week, and then, no further trouble being felt, were discontinued without my consent. The day previous to their discontinuance I had seen the patient and found the murmur over heart still very distinct, though rhythm, force and area of dullness seemed normal. Within a few days from this time the boy was going about the neighborhood seemingly as well as common, except that he was "short-winded" on exertion, when after an unusually hearty supper (including acid fruits and vegetables), the weather suddenly changed to rain. Before bed time, my patient was seized with cardiac distress and dyspnœa, of considerable intensity, and ankles simultaneously swelled and became so painful and tender as to resent the slightest touch or motion. I at once administered a quick emetic, and thus got rid of the superfluous pie, etc., remaining in his stomach from the immoderate meal of a few hours before. This relieved the dyspnœa, but an amount of palpitation remained demanding cardiac sedatives for its control. However, this was soon accomplished, a return to salines, diuretics and salicylates subdued the pain and swelling of the joints, and the boy progressed to rapid and satisfactory recovery, save only the valvular mischief previously incurred. Since then he has been doing reasonably well, with apparent return to his usual health, except slight dyspnœa on over-exertion, and trivial joint threatenings preceding a storm on only two occasions.

This is one of those cases where the fact is indubitable, that the cardiac affection preceded by several hours at least the arthritic manifestations of true rheumatism. The fibrous structures of the valves, and probably the serous surfaces, of the pericardial membrane (though no positive objective signs of the latter condition were ever discoverable), were seriously and extensively invaded by morbid processes, the results of which persist until to-day, in spite of energetic and approved treatment, and will doubtless progressively increase—so far as the present valvular lesion is concerned—for years to come, or until a far-off fatal result ensues therefrom. Now *if* the arthritic explosions had failed to appear later—*if*, as is easily supposable, the disease had remained fixed to its primary seat, instead of extending its local points of attack to the lower extremities—we would have had a case of rheumatic fever all the same and of high intensity, but perhaps never recognized in its true light, the fever being naturally referred to the activity of the acute heart inflammation as a symptom or part thereof. In fact, there would have been an inflammatory rheumatism of the heart alone. Does such a thing really occur? In the light of this case, and calling now to mind other cases of acute heart diseases, whose etiology was at the time of their occurrence under my observation involved in doubt and mystery, I can but believe that primary idiopathic cardiac rheumatism does really occur, and doubtless does so far more frequently than professional tradition would lead us to think.

Diabetes.

At the last meeting of the American Medical Association, a paper was read by Dr. Flint, jun., on Diabetes. Since this subject has been under discussion of late in Great Britain, some points in the paper may be of interest to the reader.

As a test for sugar in urine, Dr. Flint recommends Fehling's test solution, especially that manufactured by Squibb. For the quantitative analysis, he prefers that described by Roberts, viz., by fermentation.

The specific gravity of urine bears no definite and constant relation to the proportion of sugar. It may be of high specific gravity owing to the presence of excess of urea, and may at the same time contain little sugar.

"What constitutes Diabetes Mellitus? A patient with abnormal thirst, dryness of mouth, suffering from fatigue following slight muscular exertion, progressively losing strength and weight, and passing an abnormal quantity of urine of high specific gravity, containing sugar, has the disease known as diabetes mellitus." He considers that its pathology is still absent, but speaks hopefully of the success of the treatment, quoting the words of Cantini, of Naples: "Diabetes has become to-day a disease easily and certainly curable, provided that the treatment be not begun too late." The greatest stress is placed upon the diet used. He does not believe in any of the breads hitherto recommended. A form of diet is given at the end of the paper. Among the remedies mentioned is one by Cantini:

℞.	Pure lactic acid	ʒiss—ʒv
	Aromatic water	ʒv—℥j
	Water	Oij.

To be taken in small quantities frequently through the day.

Dr. Flint highly recommends Clemens' bromide of arsenic. Dose, three drops after meals three times a day, gradually increased to five. It may be continued for weeks or months without injurious effects.

The following is Dr. Flint's diet-table:—

BREAKFAST.—Oysters stewed, without milk or flour; clams stewed, without milk or flour. Beefsteak, beefsteak with fried onions, broiled chicken, mutton or lamb chops; kidneys, broiled, stewed, or deviled; tripe, pig's feet, game, ham, bacon, deviled turkey or chicken, sausage, corned-beef hash without potato; minced beef, turkey, chicken, or game, with poached eggs.

All kinds of fish, fish-roe, fish-balls, without potato.

Eggs cooked in any way except with flour or sugar, scrambled eggs with chipped smoked beef, picked salt cod-fish with eggs; omelets, plain or with ham, with smoked beef, kidneys, asparagus points, fine herbs, parsley, truffles, or mushrooms.

Radishes, cucumbers, water-cresses, butter, pot-cheese.

Tea or coffee, with a little cream and no sugar. (Glycerine may be used instead of sugar if desired).

Light red wine for those who are in the habit of taking wine at breakfast.

LUNCH OR TEA.—Oysters or clams cooked in any way except with flour and milk, chicken, lobster, or any kind of salad except potato, fish of all kinds, chops, steaks, ham, tongue, eggs, crabs, or any kind of meat, head-cheese.

Red wine, dry sherry, or Bass' ale.

DINNER.—Raw oysters, raw clams.

Soups.—*Consommé* of beef, of veal, of chicken, or of turtle, *consommé* with asparagus-points, *consommé* with okra, ox-tail, turtle, terrapin, oyster or clam, without flour or milk; chowder, without milk or potatoes; mock turtle, mullagatawny, tomato, gumbo *filet.*

Fish, etc.—All kinds of fish, lobsters, oysters, clams, terrapin, shrimps, craw-fish, hard-shell crabs, soft-shell crabs. (No sauces containing flour or milk).

Relishes.—Pickles, radishes, celery, sardines, anchovies, olives.

Meats.—All kinds of meat cooked in any way except with flour, all kinds of poultry without dressings containing bread or flour, calf's head, kidneys, sweet-breads, lamb-fries, ham, tongue, all kinds of game, veal, fowl, sweet-breads, etc., with currie, but not thickened with flour. (*No liver*).

Vegetables.—Truffles, lettuce, romaine, chicory, endive, cucumbers, spinach, sorrel, beet-tops, cauliflower, cabbage, Brussels-sprouts, dandelions, tomatoes, radishes, oyster-plant, celery, onions, string-beans, water-cresses, asparagus, *artichauts*, Jerusalem artichokes, parsley, mushrooms, all kinds of herbs.

Substitutes for Sweets.—Peaches preserved in brandy without sugar, wine-jelly without sugar, *gelée au kirsch* without sugar, *omelette au rhum* without sugar, *omelette à la vanille* without sugar, *gelée au rhum* without sugar, *gelée au café* without sugar.

Miscellaneous.—Butter, cheese of all kinds, eggs cooked in all ways except with flour or sugar, sauces without sugar, milk or flour.

Almonds, hazel-nuts, walnuts, cocoa-nuts.

Tea or coffee, with a little cream and without sugar. (Glycerine may be used instead of sugar if desired.)

Moderately palatable ice-creams and wine-jellies may be made, sweetened with pure glycerine; but although these may be quite satisfactory for a time, they soon become distasteful.

Iodized Collodion in Erysipelas.

Dr. B. Frank Humphreys thus writes in the *Nashville Journal Medicine and Surgery*, Sept., 1884:

I am not aware that anyone, except myself, has ever used iodized collodion in erysipelas. I have been using it as a local application in erysipelas for more than five years, with uniform success.

A photographic artist was about to cast out a large bottle of iodized collodion, as it was not pure enough for his purpose. I interposed, whereupon he gave it to me. It was not long until I had an opportunity to try the remedy upon a little girl, who had a severe attack of erysipelas upon her arm. Soon after this the mother had an attack of the same disease, on both of which the iodized collodion was used successfully. Of course the constitutional treatment was not neglected.

Since then I have used it without a single failure, during which time I have had some very obstinate cases. It is applied with a camel's hair pencil or a feather as often as desirable.

Upon evaporation of the ether, there is a feeling of coolness and ease, after days and nights of suffering.

The following formula, for making the iodized collodion, is taken from *Walzl's Photographic Rays of Light*, Volume 1, Number 1, Eanuary, 1878, page 12:

℞. Sulphuric ether	℥ x
Alcohol, absolute	℥ x
Gum cotton	ʒ ij.
Mix, and when dissolved add:	
Iodide ammonium	grs. 80.
Iodide cadmium	grs. 40.
Bromide cadmium	grs. 40.

Mix and bottle tightly for use.

As the salts of cadmium may not be readily obtained in country drug stores, it is highly probable that two drachms iodide ammonium and two scruples bromide potassium or ammonium added, to the three first articles, would prove as efficient as the formula given above.

The Value as a Symptom of the Swashing Sound in the Stomach.

Chomel regarded this sound as a characteristic sign of a morbid condition which he called indigestion of fluids. He believed that the stomach was incapable of absorbing or of passing into the duodenum the ingested liquids, or those secreted within the organ itself. These liquids accordingly accumlated within the stomach, and their presence was manifested by a succussion sound on shaking the patient. He considered this sound to be always a pathological phenomenon. These views were controverted by M. Andhoui in a note presented to the Paris Academy of Science (*L' Union Médicale*, July 12, 1884). He had made a number of experiments upon dyspeptic and healthy individuals, and had found the succussion sound always present immediately after ingestion of a quantity of fluid. He concluded, therefore, that Chomel was wrong in believing it to be a pathognomonic sign of indigestion of fluids, or of any other gastric disorder.

Hypodermic Injections of Quinine in the Differentiation of Malarial from Typhoid Fever.

Dr. ANNIBALE ARZELÀ employs quinine subcutaneously in doses of fifteen grains and more, according to the age and constitution of the patient, as a means of diagnosis between remittent and typhoid fever. If the disease be malarial in origin, soon after the injection a noticeable depression occurs in the temperature curve, which eventuates the next day, perhaps after another dose of quinine, in complete apyrexia. If the affection be typoid fever the fall in temperature is merely temporary. It is necessary to give the quinine subcutaneously, as the intestinal mucous membrane is in such a condition that absorption of remedies administered per orem may not occur.—*Deutsche Medicinal-Zeitung*, vol. v., No. 50, 1884.

Perspiration of the Feet.

In the *Bull. Gén. de Thérap.* we read that while perspiration of the feet is not a disease, it is a great inconvenience, especially if accompanied by a disagreeable odor. Certain physicians think that there is no danger at all in suppressing this perspiration, and prescribe stringent lotions of oak bark, tannin, and other substances. Others hold that the infirmity should be protected, and prescribe only a non-toxic substance which will neutralize the odor. For this purpose the following prescription is the best, and is very cheap:

℞.	Permanganate of potash	1 part.
	Distilled water	100 parts.
	Thymol	gtt. xxx (to ℥iij of water).

Filter-paper, linen, calico, or cork or straw soles, may be soaked in this mixture, and then dried. They are then cut of the desired size, and a pair placed in the shoes every day. The feet are not colored by the potash. If there is any color, a thin coating of the white of egg, collodion, or tincture of benzoin, may be used on the false soles.

VI. OBSTETRICS, DISEASES OF WOMEN AND CHILDREN.

Remarks on Gynæcological Therapeutics.

In the *New York Med. Jour.*, August 9, 1884, Dr. J. H. EMERSON says: I propose to run over very briefly the principal therapeutic agencies that I employ in my clinique at the New York Hospital, Out-Patient Department, stating what I conceive to be the indications for their use and the objects aimed at, and, so far as I can, the results believed to have been attained. Unfortunately, it will not be possible to formulate these with precision, the same remedies finding an appropriate use in numerous classes of cases, various affections existing in multiform combinations, and very many of the cases being chronic, and a good number curable by surgical procedures only, which are often of necessity almost indefinitely postponed. Still, I hope it may not be unprofitable to make such a review, for the sum of professional opinion regarding matters of every-day treatment is not made up from laboratory experiments in nearly so great a degree as from the observations of individuals, and even such humble contributions as this may modify or strengthen the views of my hearers, or, as I certainly hope, may elicit discussion and criticism here.

I use pessaries—chiefly the Albert Smith, the Thomas bulb, and the elastic ring; these for backward displacements; and as such are in my experience much more frequent than anteversions and anteflexions, I have much less occasion to employ instruments for the relief of the latter. For cases of prolapse with a heavy uterus and a damaged perineum, I believe that such instruments only as have an external support would be of any value. Simple abdominal belts or supporters will often obviate the need of pessaries, especially in anterior displacements. I cannot enter more fully into this topic.

Cutting operations of any importance, and even curetting, are inadmissible in patients who have to return on foot to their homes immediately after treatment, and, therefore, are not referred to at this time.

In regard to the hot douche, it is ordered in almost all cases as a matter of routine, and I find that in the class of patients I see at this institution there are few who cannot afford a bed-pan. I therefore give explicit directions to them to use the syringe in connection with this article and in the recumbent position, using two or three quarts of water, as hot as it can be borne. I always try to make sure that the nozzle does not have a terminal orifice, and, in cases of patulous os uteri, or where complaint is made of pain after using the douche, I advise the bent and partly flexible nozzle devised by Dr. F. P. Foster.

Ergot is used in gynæcological practice chiefly with three objects: one is to effect a reduction in the size of the uterus by promoting the contraction of its muscular elements and reducing the caliber of its blood-vessels, another is to check uterine hemorrhage, and a third is in the treatment of interstitial and submucous fibroids. I would say that for nearly two years past I have employed the preparation of ergot made by Parke, Davis & Co., under the name of "Liquor Ergotæ Purificatus," and which I first tried on the recommendation of Dr. T. A. Emmet, who found it less nauseous and commonly better borne by the stomach than the fluid extract of the pharmacopœia. I have seen no reason to doubt its efficiency, and have met with with few complaints of difficulty in taking it. Ergot when given with the first object has been eminently unsatisfactory. The cases in which I have used it have been mainly those of subinvolution, often associated with a greater or less degree of laceration of the cervix. In combination with the ergot, the local treatment has usually aimed at an unloading of the vessels of the uterus by the action of glycerin tampons and stimulating the blood-vessels to contract by the hot douche. Even after the use of the drug had been continued in some instances for many weeks, repeated measurements with the sound showed little or no decrease in the length of the organ, although the general symptoms of the patient and the appearance of the vaginal portion of the uterus indicated improvement. Patients with subinvolution, thus associated with and doubtless referable to lacerations of the cervix, are not apt to present themselves at the hospital until months after the confinement at which the injury was received—after a period, namely, during which the hemorrhages, the leucorrhœa, the displacements, or other results of the original lesion have been developed, and have become the incentives which brought the patient for treatment. By this time the reconstructive impulse in the uterine fibres which exists after delivery and effects the involution of the organ has well nigh ceased, and the fibres no longer respond to the stimulus of ergot, to which they were so sensitive at an earlier period. I can hardly say that I have proof of the value of ergot given simply to arrest uterine hemorrhage, although there are many cases in which I should feel that I was not right in withholding it. Still, in these same cases other measures, such as the hot douche and swabbing the uterine canal with tincture of iodine, are likewise resorted to—the effects of which are more palpable —so that one remains uncertain what the share of the ergot has been when the flow is checked. Few cases have presented themselves where the third use of ergot could be observed. The greater number of such probably find their way into hospital wards, and I have nothing to report in this connection.

There are cases of prolapsus uteri in the third degree, notably among washerwomen, or others leading laborious lives, who have to stand much and lift heavy weights. Many such have doubtless had their origin in a laceration of the perineum, complicated probably with a subinvoluted uterus, and when they apply for treatment cannot afford the time required for operation, even though, in the case of some, nothing short of a closing of the vaginal orifice would secure them from a recurrence of the prolapse. Such patients have been benefited by the frequent introduction of cotton tampons saturated with the glycerite of tannin, and by a douche of *cold* water, to which I have sometimes added a few drops of the persulphate or perchloride of iron.

This may lead to the subject of iron. In a practice where no cutting operations can be performed, the need of those preparations of iron which are used locally as direct hæmostatics does not exist. I believe the tincture of the chloride of iron has a decided value in checking metrorrhagia, when given only on such occasions, but I also believe that the continued use of large doses of this drug by women who are liable to excessive flowing tends to aggravate rather than relieve the difficulty. This may be due in part to its constipating action, although this can generally be obviated by combining with it the tincture of nux vomica. When amæmia is the most prominent feature, I rely chiefly upon Blaud's pills, finding them easily administered and assimilated, and less likely than some other preparations to occasion constipation or headache.

In that very common group of symptoms, viz., backache, constipation, leucorrhœa, "general debility," and moderate pelvic inflammation, I derive the most satisfactory results from the well-known combination of the sulphates of iron and magnesium with sulphuric acid, and perhaps a bitter infusion, given largely diluted; this is, of course, supplemented by the hot douche, and by glycerin tampons.

It is almost needless to say that a very large number of cases receives hardly any other treatment than the hot douche, local applications of Churchill's tincture of iodine, supplemented by the glycerin tampon, and the exhibition of cathartics, preferably the salines, or those containing senna. I commonly use the mixture of sulphates mentioned just now, the compound licorice powder, or an infusion of senna, quassia, anise, and bitartrate of potassium, which latter serves a good purpose in relieving the flatulent dyspepsia which is so frequent an accompaniment of these affections. A measure on which I place no little reliance when the cervix is found engorged, firm, and dark, is scarification, repeated every few days; and under its use, even though the amount of blood drawn be but a few drachms, I have seen cervical catarrh diminish, erosions heal, and the vaginal portion of the uterus recover its natural consistence and tint.

I have not learned how to use either cannabis indica or hamamelis for the relief of uterine hemorrhage, although I have made some trial of both; but gallic acid I find efficient for this purpose, and usually give it in doses of ten or twenty grains, dissolved in alcohol, to be taken in a wine-glass of water.

Ovaries, whether displaced or not, are often sensitive and painful enough for that symptom to demand special attention, and I have employed various sedatives, both by themselves and more commonly in connection with derivatives and counter-irritants. Thus, I have used blisters externally, as well as tincture of iodine; also tincture of iodine by itself and mixed with tincture of aconite root, painted upon the vaginal mucous membrane, as near as may be to the sensitive organ; belladonna by the mouth and applied *per vaginam* in an ointment with iodoform, as also the fluid extract of eucalpytus; bromide of potassium also by the mouth. I conclude that little direct relief to pain comes from any of these sedatives as applied *per vaginam*, any apparent good being more properly referable to the support furnished by the cotton tampon, and to the derivative action of the glycerin, with which it is often impregnated. Undoubted and prompt relief has been seen to follow a blister, and more gradually the painting of tincture of iodine over the painful region in the groin. It has appeared to me that something has been gained by the persistent administration of bromides and belladonna.

It is easy to satisfy one's self of the deodorizing, and presumably of the antiseptic, properties of the eucalyptus, even if it does not now maintain its reputation as an anodyne.

Here I may refer to two articles which have done good service in relieving the pain of dysmenorrhœa, viz., small doses of chloroform given by the mouth, according to an old formula, with camphor and peppermint water, and, secondly, chloral given as an enema.

As antipruritics, and to dull the sensibility at the orifice of the vagina in the slighter degrees of vaginismus, nothing has been so satisfactory as carbolic acid penciled on, or a 1 to 1,000 solution of bichloride of mercury. This latter salt, in a weaker solution, has proved most serviceable also in some cases of obstinate vaginal leucorrhœa, presumably of gonorrhœal origin. The infection appears to lurk in the follicles of the mucous membrane, especially of the fornix vaginæ, a region which ordinary douching and modes of dressing fail to act upon so effectively as upon the lower and more accessible portions of that canal, partly, no doubt, because there is here less distention of the mucous membrane, the deeper recesses of the folds thus escaping the action of the medicaments employed.

Finally, I may mention two drugs which, in my experience, have not deserved the reputation claimed for them by some recent writers. These are viburnum, as a uterine sedative, and apiol, as an emmenagogue.

Education of Incurably Deaf Children.

In the *Brit. Med. Jour.*, July 12, 1884, Dr. W. B. Dalby says: The following examples of the condition under which children may be left as regards their hearing, and the plan of education which I suggest, will illustrate what I wish to say.

1. A child who has entirely lost hearing and can read, should be made to read several times during the day, and be taught lip-reading. The constant repetition of the words which it has already used will cause them to be retained by reading, and an increased vocabulary will be acquired by the lip-reading.

2. A child who has become totally deaf and cannot read, should at once be taught on the pure oral system, and words which it could pronounce will, by constant repetition, be retained.

3. If a child can understand words pronounced in its ear, still better if it can hear a raised voice, it can be taught to articulate new words by making use of the hearing; its articulation, whilst becoming deficient, can be corrected, and efforts in this direction, added to lip-reading, will enable it to retain speech.

It cannot be too urgently insisted on that the educational treatment of this character must be commenced immediately after the occurrence of the deafness. When this is not done—that is, when the originally acquired vocabulary has been lost—the education will have to be the same as that of a congenital mute, except for the important part of taking advantage of the partial hearing to correct the articulation; and thus speech will have to be acquired again. By processes carried out on these lines, but varied according to the circumstances of the case (of which skilled teachers will be the best judges), and especially regulated according to the amount of hearing left, numbers of children have, within my own knowledge, during the last twelve years, been saved from mutism. It will, I am sure, be freely admitted by those competent to form an opinion, that, up to a comparatively recent date, all children who suffered as I have described became dumb. It was the rule, to which I am unaware of an exception. If it be asked, Why was this? I reply, that before the introduction into this country of the pure oral method of education, no one could have been in a position to make the remarks which I have ventured upon to-day. The mode of proceeding with these children could not have suggested itself to any one. It has become possible by means of a side path, so to speak, which could not have been opened unless the main road of the pure oral method had come into use. It is hardly necessary to say that a most complete revolution has taken place since the year 1871 in the mode of education of deaf children. When, in that year, on behalf of the Association for the Oral Instruction of the Deaf and Dumb, I had the privilege of directing public attention to the matter in a paper read at the Social Congress at Leeds, "On the Education of the Deaf and Dumb by Means of Lip-reading and Articulation," with the exception of two or three small schools, the pure oral method was not taught in this country. The progress of the change which has taken place has been so familiar to me, I have taken so active a part in it, and have written so constantly in the press upon the subject, that I hope I may be allowed to say a few words upon it.

In the first place, I would ask permission to pay a passing tribute to the honesty of purpose and the indefatigable industry of the teachers of the deaf and dumb. It was but natural that they should at first regard with some degree of jealousy the introduction of a system which so completely put aside one in which great facility in teaching had been acquired, and which in its way was very successful; but the whole subject was fairly and carefully examined, and the oral method had not only been gradually adopted, but enthusiastically propagated by large numbers, amongst whom may be reckoned many of those who were at first opposed to it. The Association for the Oral Instruction of the Deaf and Dumb, which inaugurated the revolution to which I have alluded, was in a few years followed by The Society for Training Teachers for the Deaf and Dumb at Ealing, a society which has been doing its work with great energy, and adding immensely to the general diffusion of the system. Then must be reckoned the influence of the members of the medical profession throughout the United Kingdom; for they have, through the medical press, been made acquainted with the existence of the oral method; and, as it may be taken for granted that the medical man is the first person who verifies the fact of the child being deaf, it has become his duty to inform the parents of every congenitally deaf child that the oral method is within their reach. And here let me say that, after all, parents are those who should select the plan of education for their child, and the merits of the system must be judged by its results as observed by the parents. In 1880, I wrote as follows:—"What is the opinion of the better educated classes upon this method, may be learned from the following circumstance. In my position as aural surgeon to one of the principal metropolitan hospitals, a very large number of deaf children of all classes come under my observation. It has been my habit on all occasions, not to advise as to either method of education, but to afford opportunities for thoroughly observing both. I can confidently assert, that on every occasion during the past seven years the parents have selected the articulate method; and whenever this plan has not been followed out, it has been in the cases of hospital patients, whose means were not sufficient to meet the expense, and who were therefore obliged to place the children in asylums, or completely neglect their education. From such experiences as these, whilst having no doubt as to the advantages of the articulate system, it has become a question with me whether, for the laboring classes of the poorer sort, this system is applicable; not simply because of the expenses that are incurred during the education, but also on account of the number of years during which it is necessary to keep the child at school." I may also add that the pure oral method is obviously unfitted for children with cleft palate, or those in whom sight is in any way deficient; and in one class of cases, where the loss of hearing is the result of disease, the vision is very frequently at the same time affected.

Acute Intussusception in an Infant Eighteen Weeks Old.

Dr. HERBERT COLLIER reports this interesting case in the *Lancet*, Aug. 30, 1884: William B——, aged eighteen weeks, was brought under my notice on Feb. 16th last, suffering from great collapse, and with marked signs of acute obstruction of the bowels. The mother stated that she suckled the child from birth, but as she did not have sufficient milk, she supplemented this diet with small quantities of bread soaked in water and sweetened with sugar. The infant had never rejected his food till about a week previous to my seeing him, when he commenced to return a small portion of the milk after each meal; the bowels also became costive, and the evacuations slimy and highly offensive. The child, however, "appeared quite well, and seemed more hungry every day." At the age of ten weeks he had a slight attack of bronchitis, which, under medical treatment, passed off in a few days. Since his recovery no medicines of any kind had been given. On Feb. 15th, whilst lying asleep in his mother's arms, he suddenly became convulsed and appeared in great pain, screaming loudly and struggling, so that it was with difficulty that he could be held. After the fit had lasted a few minutes the struggling gave place to violent straining, "as if he was trying to relieve himself," and during these efforts a large quantity of gas was discharged per anum. On the diaper being inspected, it was found to be soaked with bright blood and slime, but did not contain any fæcal matter. He now appeared more calm, and after a short time took the breast, but almost immediately afterwards became very sick, bringing up a large quantity of milky fluid. Since then he had mostly been quiet, crying and straining only by "fits and starts." He had taken small quanties of milk-and-water from a teaspoon, but nearly always returned them immediately. No natural action of the bowels had occurred since an hour before the onset of the attack, although the diapers were several times found stained with "bright watery blood." Urine was passed more frequently, but in smaller quantities than usual.

When seen by me on Feb. 16th, at 4 p. m., I found the condition of the child to be as follows: He was well nourished, but much collapsed, with pale face and pinched, drawn features; pulse 100, feeble and irregular; respiration 30, shallow; skin cold and perspiring; temperature 100.5°, taken in the rectum. There was much distension of the abdomen, and percussion yielded a tympanitic note, except where the right inguinal and hypogastric regions were occupied by an elongated swelling, which ran in a direction upwards and inwards, and could plainly be seen and felt. Pressure over this tumor gave rise to crying and struggling on the part of the infant. On account of his tender age, it was not considered advisable to extend the examination to an exploration of the rectum. Three blood-soiled diapers were shown by the mother, and one of them, said to be in use at the onset of the attack, contained about two ounces of blood and mucus. Having diagnosed acute intussusception, it was thought best to resort to inflation of the bowels as soon as possible; but as an anæsthetic was necessary for the more perfect execution of this operation, some valuable time was lost in procuring the requisite assistance. In the meanwhile hot fomentations were applied to the abdomen, and a mixture containing tincture of belladonna, chloric ether, and sal volatile, in appropriate doses, was prescribed every two hours. At 6 p. m. the child was in much the same condition. The pulse was slightly stronger, and he had not vomited since my last visit. He had refused the breast, but had taken and retained two doses of medicine. The same treatment was continued, in addition to which ten drops of brandy in a teaspoonful of ice-water were given every half hour. At 8 p. m. the pulse was still more improved, although vomiting had occurred twice since I last saw him. About an ounce of blood-stained mucus was passed per anum during this visit. The treatment was continued. At 9 p. m., after a consultation with my friend Mr. Blake of Great Yarmouth (to whom I am indebted for kind assistance during the subsequent inflation of the bowels, as well as for giving chloroform), it was decided to anæsthetize and attempt to dislodge the prolapsed portion of bowel by injecting water. After chloroform had been inhaled some few seconds, and before insensibility was produced, the patient became violently sick, ejecting about half a pint of pale-yellow fluid, having a strong fæcal odor. The pulse at this moment became scarcely perceptible, and the child appeared in the gravest danger; but on chloroform being suspended and ammonia applied to the nostrils, the pulse returned, and remained fairly strong throughout the remaining stages of anæsthesia. The fingers of one hand being kept in contact with the sausage-shaped tumor described above, warm water was slowly injected into the rectum by means of a Higginson's enema syringe, care being taken to prevent its return by the side of the nozzle. When about twenty ounces had been injected, a sense of the tumor slipping away was plainly perceptible to the fingers in contact with the abdomen. By the time some thirty-five to forty ounces had been injected, the tumor had entirely disappeared, and the most careful examination failed to detect it. The patient was now wrapped in warm blankets, and the injected fluid allowed to drain off. During returning consciousness the child once more vomited freely, bringing up fluid of the same color, and possessing the same strong fæcal odor, as before. Ten drops of brandy in a teaspoonful of ice-cold water were subsequently administered and retained, and the child afterwards manifested an inclination to sleep. The hot fomentations were again ordered to be applied to the abdomen, and the belladonna mixture to be given every two hours. At 12 p m. a large quantity of water was found to have been passed per anum. The child appeared more comfortable, and was sleeping calmly. He had not evinced a desire for milk when placed to the breast. On the diapers being changed in my presence, about two tablespoonfuls of dark-yellow fæcal matter were found to have been passed. The fomentations were ordered to be continued to the abdomen, and the mixture given every four hours.

Feb. 17th.—9 a. m.: The child had taken the breast twice during the night, and had another natural action of the bowels at six o'clock this morning. From this time the patient made an uninterrupted recovery.

Gestation; Accidental Hemorrhage; Death of Fœtus in Utero; Arrested Labor from Rigor Mortis of Fœtus.

Dr. Robert Boxall reports this case in the *Lancet, July* 12:

Mrs. S——, aged twenty-nine, a fairly-nourished, healthy woman, of medium complexion and rather short stature, was admitted to the hospital at the full time of her sixth pregnancy, on Oct. 17th, 1883, at 8 a. m. She had always enjoyed excellent health. Her previous labors had been natural and easy. The external pelvic measurements were: Interspinous, 10 in.; intercristal, 11¼ in.; conjugate, 7¼ in. The patient had been under observation twice before, the first occasion being on Oct. 4th, when she complained of abdominal pains. The os was very patulous, and it was thought possible that labor was commencing; she returned home the same evening. The second occasion was three days later, when pain in the back was complained of. The condition of the cervix was unaltered; she stayed in the hospital some hours. At that time the fœtal heart-sounds were distinctly audible. (It afterwards transpired that on each occasion, having had a "difference" with her husband, she sought the hospital as a harbor of refuge.) On reaching home on the evening of the 7th, she noticed "a show," and from this time till admission suffered much from "whites," and experienced a sense of weight in the abdomen. She felt the child's movements up till the 15th, on which date they were stronger than usual, and "something seemed to go pop inside the womb." She remarked on this to the landlady. Immediately before experiencing this sensation, she had carried a bucket of water up three flights of stairs. She felt a little faint, came over pale, and was obliged to lie down. After that she felt no more of the child, but had a pricking pain in the abdomen, which kept on continuously, and she could scarcely get about. From this time till admission she felt cold shivers, which she had never experienced with any of her previous children. Labor pains commenced about 5 a. m. on the day of admission. About 7 a. m., while still in bed, the pain in the abdomen and back was very bad, and suddenly, without apparent cause, flooding set in, and she lost "half a pailful," at any rate enough to soak through the bed and run in a pool on the floor. She came to the hospital, a distance of about a mile, in a cab.

When admitted, a thick diaper was soaked half through with blood, and there was still slight oozing. On examination, the os uteri was found high up, fairly firm, and a little puffiness of the anterior lip. The canal would admit the finger easily. The membranes were intact. The vertex could be felt above the brim in every direction. No part of the placenta could be reached. A pinkish sero-sanguineous discharge escaped in gushes at the commencement of each pain. The pains were strong and almost continous. The patient was not strikingly pale. Temperature 98°; pulse 108. On palpitating the abdomen the usual contour of the uterus was found to be maintained. No uterine sounds could be heard. The patient was douched every half hour, and given four ten-grain doses of chloral hydrate in an hour. As the cervix expanded the anterior fontanelle could be felt forwards and to the left, high up. At 12:30 p. m. the cervix was fully dilatable, and the membranes were ruptured artificially. The head, however, would not come down. The pains preserved the same character, and became a little stronger. As no progress was made, at 1 p. m. forceps were applied to the head. On the introduction of the lower blade about four ounces of liquor amnii escaped, and the head rotated into the second position. The head was easily brought down through the cervix into the cavity, and as the pains then improved in character and remained of fair strength with about a minute's interval between each, the forceps were removed, and nature left to take its course. The head was born at 1:45 p. m., a loop of pulseless cord following its expulsion. Though the pains were strong, the trunk was arrested. There was no attempt at restitution. With supra-pubic pressure, and slight traction on the head, delivery was completed. There was no caput succedaneum. The child, a female weighing eight pounds and a quarter, and measuring twenty-two inches, was of a mottled blue color, and stiff, as if rigor mortis had set in. This passed off in about an hour. The placenta followed the child into the vagina, and was expelled by natural efforts almost immediately after. About twelve ounces of recent clot was adherent to the uterine surface of the placenta. The portion of clot adjacent to the placenta was brownish, and detached without difficulty. The uterine surface of the placenta was a little gritty, and very smooth, yellow, and fatty-looking, from a thin lamina of fibrin covering its whole area. It also presented two yellowish fibrous masses, each about the size of an almond, near the centre, and another situated an inch from the edge, the size of a haricot bean. Nearly all the vessels on the fœtal surface were empty, and at the margin of the same surface were three pinkish laminated clots, not larger than almonds. The substance of all the cotyledons was softer in consistence than natural. The membranes, which formed an entire bag, measured fourteen and four inches respectively, in the greatest and least distance of their rupture to the margin of the placenta.

The temperature after labor was 98.4° ; the pulse 72. The loss subsequent to expulsion of the placenta was almost *nil.* She had slight after-pains and retention of urine for the first twenty-four hours, but made a satisfactory recovery.

Beyond a slight attack of urticaria, and a little pain in the breasts on the fourth and fifth days, the puerperium presented nothing calling for note. She left the hospital quite well on Oct. 30th.

Removal of the Ovaries and Fallopian Tubes, Followed by the Disappearance of Symptoms of Spinal Atrophy.

The *New York Med. Jour.*, August 2, 1884, says : Five years ago Dr. MUNDÉ was requested to see a patient by Dr. Allan McLane Hamilton, she being at that time twenty-five years of age. Three years previously, while returning home one evening from a party, during the menstrual period, she was seized with what was called a fainting fit, and was unable to walk. She remained paralyzed in the lower limbs for some months. Gradually some power returned, but she remained unable to walk, being only able to put one foot a little before the other, dragging the left one as a patient affected with hemiplegia would. Dr. Mundé was asked to see the patient because, at her menstrual periods, she suffered a great deal from pain in the left ovarian region and back, and from nausea and vomiting, which continued for two weeks out of every four. She became emaciated in consequence, and had been all these years a bed-ridden invalid. A vaginal examination showed retroversion of the uterus and prolapse of the left ovary. The ovary was not much enlarged, but very tender. Pessaries and other means for maintaining the womb in an improved position gave rise to pain, intra-vaginal and abdominal counter-irritation gave but temporary relief, and finally treatment was abandoned. Oöphorectomy was suggested, and the patient was anxious for it; but it was not countenanced, because Dr. Hamilton had examined the patient very carefully and found undoubted symptoms of chronic myelitis in the lumbar region of the cord. Dr. Thomas and Dr. Emmet had seen the patient before she came under Dr. Mundé's care, and both had also discountenanced an operation, believing that the disease of the cord would in no way be benefited thereby. In this opinion Dr. Mundé entirely concurred. During the next three years Dr. Mundé saw the patient only occasionally, when she suffered more than usual from ovarian pain. Last autumn she again raised the subject of removal of the ovaries, and was more anxious than ever to have the operation performed, especially after she had been shown the report of a recent case (in the "Centralblatt für Gynäkologie") of a woman who had been for seven years in a similar condition, unable to walk and forced to take nourishment through a tube, because of continuous trismus, and who six months after removal of the ovaries, was able to walk six miles, and made a perfect recovery. After due deliberation, Dr. Mundé finally decided to give the patient the chance of possible benefit from the operation, provided a consultant agreed. Dr. Emmet again saw the patient, and he also thought that, while the operation probably would be of no benefit as regarded the ataxia, and perhaps of none as regarded the general debility and nausea, still, as there was no other possible chance of relief before the climacteric period, nearly fifteen years hence, she might as well be given this chance, knowing, as she did, the risks. On the 6th of January both ovaries and tubes were removed, the uterus being elevated with a repositor. No special difficulty was experienced during the operation. The ovaries were not adherent. The highest temperature after the operation was 99.5° F. The patient, who was an unusually intelligent lady, called his attention, four days after the operation, to the fact that she was able to move the toes of the left foot, which she had not been able to do during the preceeding seven years. About a week later she was able to bend the left knee. About the fifteenth or seventeenth day she was moved to a lounge, and began gradually to learn to walk, beginning like a child. Instead of dragging the left foot, as she had formerly done, she placed it directly forward in the normal manner. It was now two months lacking two days since the operation was done, and Dr. Mundé had seen the patient this afternoon, when she walked the full length of the double room without assistance, and apparently as well as anybody could. He confessed that he was surprised to see such marked improvment in the spinal symptoms. The gastric symptoms had also greatly improved. There had been no sign whatever, not even a molimen, of menstruation since the operation.

A Case of Extra-Uterine Pregnancy.

Dr. N. C. Cooper thus writes in the *Jour. Am. Med. Ass.*, Aug. 2, 1884:

Mrs. C. consulted me in October, 1882, for what she supposed to be some uterine disease. She was English by birth, 39 years old, and the mother of four children. She had suffered three miscarriages. Her youngest child was four years old. I treated her nearly three months for subinvolution previous to her last pregnancy. For the past eight months her menstrual flow had been scant, and followed by a somewhat profuse leucorrhœa. She had no flow in September, but when she consulted me, had recently ceased from her October period, and was suffering from dragging pain, lassitude, etc. I found the os flabby and patulous, readily admitting the point of the index finger. The cervical canal seemed filled with tenacious mucus. The depth of the uterine cavity including the cervix was five inches. Three times each week for the first month, and twice each week for the second month, I applied equal parts of tincture iodine and fluid extract ergot to the cervix, within and without, and occasionally carried the treatment to the fundus; also, ordered free, hot vaginal injections at bed-time. After two months treatment the uterus had increased to 6½ inches in depth, and the os was still patulous, but the leucorrhœa had ceased. A tumor could readily be felt either within the wall of the uterus or attached immediately to it upon the right side. It did not seem to encroach upon the uterine cavity.

By the first of January the tumor was as large as a pregnant uterus at the beginning of the fourth month. Its position was always on the right side, and freely movable with the uterus. The patient thought she could feel motion within the tumor, yet no fœtal heart-beat could be detected, and the breasts were but slightly enlarged, if at all. The rapidity of the growth, and the fact that somewhat rough manipulation over the abdomen caused some degree of contraction, which was apparent to her as well as to myself, taken together with the supposed motion, led me to the conclusion that the case was one of tubal or interstitial pregnancy. There was considerable pain in the right iliac region, sometimes extending down the thigh and leg. The patient declined a consultation, and about the middle of January she suffered so much inconvenience, I put her on the use of iodide and bromide of potassium. No special change occurred in the case until the middle of February, when I was called in haste, and found her in apparent labor. Pains had been occurring every five or ten minutes for about two hours. The contracting tumor could not be compelled to retain a central position except when held there. I found the os uteri dilated sufficiently to admit two fingers, and by pressing the mass well down, I could detect a sac bulging from the right side of the uterus. From this time I kept the tumor within my grasp, and increased the pressure during the pains, which now recurred every three minutes.

Within half an hour there was a free flow of water, the os was dilatable, and I could distinctly feel a head presenting where I had before felt the distended sac. I had not long to wait before the head presented at the well-dilated os, and the progress of delivery was uninterrupted. The fœtus was a male of apparently six months' development, though rather small. Life was not entirely extinct, but resuscitation was impossible. The afterbirth was thoroughly delivered in eight minutes. The lochia continued about four days. The breasts did not fill sufficiently to require any attention. The patient suffered no unusual difficulties in getting up, except a constant sore and dragging feeling in the right groin. The tumor did not disappear from the right side for about six months after delivery. On subsequent examination I found no trace of the tumor, neither could I find any indication of a double uterus. All her other pregnancies had been natural in appearance and position. Whether this pregnancy should be called tubal or interstitial I cannot say, but that it was entirely outside of the uterine cavity there is no room to doubt.

The happy termination of this case was certainly rare, and has led me to think of the possibility of operative procedure through the easily-dilated os in cases of extra-uterine pregnancy where the fœtal mass is within, or in immediate proximity to, the wall of the uterus.

Strong Mental Emotion Affecting Women as a Cause of Idiocy in the Offspring.

Before the Obstetrical Society of London, Dr. ARTHUR MITCHELL read a paper on this subject, in which he remarks that this cause is often assigned by the mother, but in most cases without sufficient reason, especially as more probable causes can usually be discovered occurring after birth. In some cases, however, he has convinced himself that this is the true cause, especially if the mental state has been protracted, and if the rapidity of developmental changes in the fœtus be considered. Such disturbance may act either as arrest or as misdirection, and probably through the bodily health of the mother. Sudden emotions may in some cases have a similar effect; under such conditions patients have described violent fœtal movements following the shock, and afterwards a cessation of movements for some days. Such movemehts are probably convulsive, and if so are quite capable of accounting for permanent mental damage. Mental emotion is known to lead to abortion, sometimes apparently preceded by the death of the fetus. The paper concludes with an account of 6 cases, drawn from 443 cases of idiocy or imbecility consecutively examined, with allusion to 22 other cases, making 28 cases observed in a total of 1,500. In the 22 cases the evidence was less satisfactory.

The President gathered that the effect was presumably produced through the general health of the mother, rather than directly on the fœtus.

Dr. West remarked that such statistics could not be trustworthy until compared with a similar series in which no such results had followed from the same causes. The latter class would in his opinion prove a large majority. His present opinion coincided with the verdict "*not proven.*"

Dr. Fletcher Beach said that, according to statistics collected by him in the Dareuth Asylum, fright and other mental emotions accounted for about one-tenth of the cases in which histories could be obtained. But in many of these cases there was also intemperance, involving worry and anxiety to the mother, ill-usage from the husband, pawning of furniture, and want of food. In a large number of cases there was a history of insanity, imbecility, epilepsy, or paralysis in the parents.

Dr. Cleveland agreed with Dr. West; he related the history of a family of six, three of which (each alternate child) were idiots; both parents were sane, there was a history of insanity on the mother's side, but she had never herself been insane.

Dr. Aveling regretted the absence of histories of insanity and consanguinity from the cases related.

Dr. Matthews Duncan observed that Dr. Mitchell did not claim to have proved his thesis, but only said he had "convinced himself" of the truth of it; he (Dr. Duncan) thought he had made it highly probable. Dr. Mitchell had already shown that the age of the mother, the number of the pregnancy, and of twinning, influenced the offspring. Ancell had shown that the injurious or favorable influence of the number of the pregnancy extended over the whole life of the children to adult age, influencing the rate of their mortality. Such facts proved the grave effect of slight causes, and favored the author's view.

Dr. Heywood Smith pointed out the omission from the paper of the date in utero-gestation at which the perturbing influence occurred. In physical deformity of the offspring. the mental shock to which the mischief was ascribed by the mother happened, in his experience, generally between the third and fourth month.

The Wave Theory of Menstruation.

The *Medical Record*, September 29, 1884, says: So rapid has been the progress of scientific investigation and destructive criticism, that there is now no English or American text-book which presents correctly the state of scientific opinion regarding the physiology of menstruation. It is still generally stated that menstruation is a miniature pregnancy, in which there is a disintegration and throwing off of the mucous membrane. It is known now, however, that such statements do not express the truth, but that the denudation is only partial, and that the blood escapes mainly by diapedesis and by rupture of engorged vessels. This view, that the uterine mucous membrane is characterized by a monthly "deciduosity," has been laid aside.

In the same way the old theory of Pflüger, that menstruation and ovulation were almost, if not quite inseparable phenomena, the irritation of a ripened follicle exciting reflexly uterine congestion, has also been disproved. The fact that after removal of the ovaries menstruation may continue, furnished a sufficient refutation of this previously very satisfactory explanation of the menstrual process.

If, however, it be true that menstruation invariably ceases after removal of the Fallopian tubes, some ingenious person may yet be able to rehabilitate in a measure the reflex hypothesis of Pflüger.

At the meeting of the German Naturalists and Physicians in Freiburg, February, 1883, Professor Hegar reviewed and showed the insufficiency of the various theories of menstruation. Since that time Arthur Farre and Leopold (*Archiv f. Gynecologie*, Bd. xxi.) have contributed further evidence as to the independence of ovulation and menstruation.

In a recent issue of Volkmann's *Klinischer Vorträge* (No. 243), Dr. Carl Reinl, a pupil of Hegar, discusses the theories of menstruation, and contributes the results of some careful experiments relating to what may be called the wave theory of menstruation.

Professor Goodman, of Louisville, some six years ago, advanced the theory that the vital activity of woman ebbed and flowed rhythmically, the length of the wave being the duration of a menstrual epoch. Various investigators (Putnam-Jacobi, Stephenson, Rabuteau, Hennig, and Von Ott) have contributed some facts which apparently show that just before menstruation the vital powers of woman are at the highest, and that with the appearance of the menses there is a gradual fall, with, in some cases, a secondary rise.

The measures of this alleged increased vitality have been the state of the heart circulation, the temperature, and the excretion of urea. It has generally been found that the temperature has been higher, the blood-pressure greater, and the excretion of urea larger in amount, before menstruation, than during or directly after it.

Reinl's observations cover the subject of the relation of the heat production to the menstrual epoch. Records were made of the temperature in eighteen cases. Eight of these were healthy women; on three ovariotomy or oöphorectomy had been performed, while the remainder had some form of uterine or ovarian trouble. In the healthy patients he established the existence of a temperature curve, which reaches its highest point just previous to menstruation; it then gradually falls during menstruation, and for some days thereafter. In a certain proportion of cases, during the first half of the inter-menstrual period it falls below the normal.

In the pathological cases Reinl still found marked evidences of the temperature wave. Even when menstruation occurred every two or three weeks, the appearances of menstruation corresponded with the top of the curve. Perhaps the most significant fact, however, was that in the castrated women, where no menstruation occurred, the form of a periodically returning temperature wave could still be made out.

The observations which have thus apparently established the fact of a menstrual wave are most interesting, and not without practical significance. It will still be questioned, however, whether because the pulse is harder, the skin hotter, and the urea excreted greater, therefore the vital powers are above their average of activity.

Vaginal Extirpation of the Uterus.

The *Med. News*, Sept. 20, 1884, says the subject of kolpohysterectomy, or removal of the uterus by the vagina, is very fully discussed by Demons, of Bordeaux, in the *Rêvue de Chirurgie* of August. He holds that while cancer of the uterus offers by far the most frequent indication for the operation, yet it may be given by myomata situated at the fundus of the uterus; when a myoma is of medium size and submucous, situated as mentioned, the patient may die from homorrhage, and, therefore, other means failing to stop the blood-flow, it is better to remove the uterus by the vaginal method. An indication for partial removal of the uterus is given by an irreducible inversion of the organ.

In determining the propriety of the operation in a case of cancer of the uterus, a most careful examination must be made, and for this it is necessary in many cases to thoroughly to anæsthetize the patient—at least the abdominal muscles must be completely relaxed. The examination is made by abdominal palpation, by vaginal and rectal touch. In a case suitable for the operation there should be no enlargement of the lumbar glands, no tumefaction of the broad ligaments, the vaginal cul-de-sacs should be free from swelling, of normal elasticity, and the uterus should be quite movable. This mobility is best tested by catching the cervix with a tenaculum, and drawing the organ toward the vulva, at the same time, as advised by Schröder, that rectal and vaginal touch are made, so that the broad ligaments can thus be included between the fingers, and their freedom from disease be ascertained.

The operation is to be rejected in case the disease involves simply the intravaginal cervix, for then removal of this only is advisable. Even if the disease has extended to the internal os, supravaginal amputation of the cervix may be done, but total extirpation is necessary if the mucous membrane of the body is involved as well as that of the neck.

In the operation the patient is completely anæsthetized, and by means of continuous traction with Museux's forceps fastened to the cervix, the latter drawn to the vulval orifice; then a circular incision is made around the cervix, when the finger is used to detach the uterus, keeping it close to this organ; the detachment is made but slightly behind and at the sides, but carried in front to the anterior peritoneal cul-de-sac; occasionally a probe-pointed bistoury may be necessary to divide very resisting portions of connective tissue. The peritoneum is opened, if possible, with the finger, if too resisting with the bistoury, and then two fingers are passed over the fundus of the uterus so as to draw it into the vagina; in some cases this eversion of the uterus cannot be effected by the fingers, and then a strong hook must be used for the purpose.

The next, and the most difficult step of the operation, is ligating the broad ligaments. For this a curved needle—Cooper's is advised—is required, and Demons uses catgut ligatures, No. 1 for the upper, and No. 2 or 3 for the two lower. After introducing the three ligatures on one side, and tying them, the ligament is divided either with a probe-pointed bistoury, or blunt-pointed scissors; next the ligatures are applied to the broad ligament of the other side, and it is then similarly divided; finally, the bistoury is used to cut the peritoneum posteriorly, and the uterus falls out. Demons states that it is unnecessary to remove the ovaries, as the patients do not have any acute pain at menstrual periods, and there is no intra-abdominal hemorrhage.

The statistics of the operation given by Sänger, in 1883, are quoted, showing that in 143 extirpations of the uterus—133 for cancer, 6 for prolapse, and 4 for myomata—72 per cent. recovered, while 28 per cent. died. While immediate recovery is then the rule even in case of kolpohysterectomy for cancer, yet in the majority the disease returns in four or five months, and the patient dies in a year or fourteen months after the operation. Demons, while recognizing the difficulties of the operation, states that he has less fear in the removal of a mobile uterus, than in that of a nasopharyngeal polypus with multiple prolongations, or of a suffocating goitre.

Ovarian Tumor in a Child.

DR. EDW. EVERS thus writes in the *St. Louis Courier of Medicine*, August, 1884:

Ovarian tumors in young children are sufficiently rare to warrant the publication of every case observed. The following occurred in the practice of Dr. U.

HARDER, of this city. A little girl, two and a half years old, was taken sick in the latter part of March. When the doctor first saw the girl she was suffering with a low form of fever, the temperature-curve resembling that of typhoid fever. There was a moderate distension of the lower part of the abdomen, which was said to have been noticed a short time before, but to have disappeared only to reappear with the fever.

Under the treatment adopted, the fever disappeared entirely at the end of a week; but the enlargement of the abdomen increased so rapidly, that when I saw the child in consultation with the doctor five weeks after it was first taken sick, the little girl measured 26 inches over the umbilicus. The abdomen was occupied by a solid tumor, extending about an inch above the umbilicus, and apparently a little further on the right side than on the left. Both lower extremities were œdematous, as also the integuments of the abdomen and of the lower part of the back; the superficial veins of the thorax and abdomen were very much enlarged, forming a beautiful blue network over the entire anterior surface of the body. The tumor was not movable in any direction, nor was it at all painful on pressure; the breathing was rapid and shallow, though there were at that time no signs of bronchitis or pulmonary trouble. The child had absolutely no fever; her appetite was good; her bowels moved regularly and naturally; the urine was normal in quantity and quality. My first impression was that we had before us an immense tumor of the spleen; but careful study and subsequent careful examination soon convinced us that it could be nothing but an ovarian tumor. At one time we thought we detected fluid above the tumor; but, on introducing the aspirator needle, we not only failed to get any fluid, but found that the needle had entered a solid growth even two inches above the umbilicus.

Towards the end of the sixth week the child again became feverish and began to cough, and finally died, seven weeks after the first appearance of the growth, with the symptoms of pulmonary œdema. The post-mortem revealed an ovarian tumor of the right ovary, measuring 27 inches in its longest circumference, and 25½ in the smaller, weighing 8 pounds. It was adherent to the peritoneum, the bowels and the bladder, but the adhesions were easily separated by the hand. The tumor could have been removed by operation without difficulty. Such an operation was suggested to the parents, but we did not feel justified in urging it, in view of the probable malignant character of the growth.

The microscopic examination proved the tumor to be a sarcoma, with scarcely a trace of normal structure left.

Quite a number of ovarian tumors in children have been observed; and I believe a successful ovariotomy on a child three and a half years old is on record. All of these tumors were fibroids or fibro-cystic growths. In the literature accessible to me at present, I find no record of a sarcoma of the ovary in one so young.

Fœtal Revolutions.

Before the Obstetrical Society of London (June 4, 1884), Dr. J. MATHEWS DUNCAN read a paper on this subject, in which he regarded revolutions, as distinct from rotation, as having been too much neglected in studying the mechanism of delivery. He showed the difficulty introduced by the peculiar curvature of the genital passages, which was nearer a parabola than a circle (circle of Carus). He showed that special mechanisms, as of the delivery of the head, extension, flexion, were imperfectly described and misunderstood because not studied as parts of the change of fœtal attitude necessitated by the revolution. Revolution generally involved extension of the whole fœtal body. The various forms of revolution observed in different presentations and conditions of the fœtus were then described.

The President expressed his approval of the paper.

Dr. Galabin criticised the accuracy of Dr. Duncan's description on the principles of geometry, and objected to the fœtus being likened to a viscous mass; although it was plastic to some extent, it came mechanically under the head of rigid bodies. Version illustrated this.

Dr. Champneys pointed out the importance of accurate knowledge of mechanics in practice: for instance, in the delivery of the head. The head was born by a movement of extension with advance; if the advance were forgotten, and extension artificially produced, the larger fronto-occipital, instead of the smaller suboccipito-frontal circumference, distended the vulva, and the perinæum was unduly stretched. He was convinced that laceration often occurred from this cause. The words revolution and rotation were familiar to all, and were most useful for teaching purposes; a wheel rotated round its axle-tree, the moon revolved round the earth and also rotated. Viscosity could hardly be denied, in the face of the various forms of expression of more mobile parts or their retardation; and the fœtus could not, therefore, be regarded simply as a series of rigid levers.

Dr. Matthews Duncan, in reply, endorsed Dr. Champneys' remarks, and stated that the movements, as described by him, had been so described by all previous good observers, and that his descriptions were not innovations, as Dr. Galabin implied.

Combined Version in Placenta Prævia.

The *Med. News*, Aug. 16, 1884, tells us that C. Behm has used combined version in forty cases of placenta prævia, without a single death. This must be regarded as an extraordinary good result for a condition which ordinarily gives a mortality of forty per cent. Hofmeier has already obtained similar results in the treatment of placenta prævia.

The operation is performed as follows: When dangerous hemorrhage comes on, the vagina should be tamponed until the cervix is closed. This being done, and the woman anæsthetized, the whole hand is introduced into the vagina, and two fingers into the cervix. If the membranes present, the operator endeavors to rupture them with the finger, then draws the presenting part (unless it be the buttocks) to one side, at the same time making pressure from without so as to carry the buttocks down, until he can grasp a foot. This is drawn through the cervix, so that the breech acts as a tampon on the lower segment of the uterus, and the placenta is pressed against the sides of the uterus. In central implantation of the placenta, the finger should be pushed through the centre.

After this version the operator waits for the spontaneous expulsion of the child, or at least complete spontaneous dilatation of the cervix, in order to complete delivery. The duration of labor after version is between one-half hour and eleven hours, the average being one or two hours.

The mortality for the children by this procedure is very great, but the chances for the mother are better. The mortality for the children is, however, no greater than by the old operation.

The causes of the great mortality of the mother, under the use of the continuous tamponade, is the infection through the blood and other matters adhering to the tampon.—*Centralbl. f. d. gesammte Therap.*, July, 1884.

The Alexander-Adams Operation for Displacement of the Uterus.

In the *Glasgow Medical Journal*, August, 1884, Mr. Robert Miller reports two cases operated on at the Town's Hospital, Glasgow. The operation consists in making a simple skin incision over the external inguinal ring, gathering up the ends of the round ligaments and drawing them sufficiently out to restore the womb to its normal position. Finally, the ends of the ligaments are stitched to the edges of the wounds.

Both the cases operated upon were successful. Dr. Adams, in commenting upon them, says that these cases show the immediate relief that may be obtained from this operation in cases of *prolapse.* There is, however, some risk of the operation becoming discredited, from two causes. Thus it requires considerable experience to recognize, catch up, and manipulate properly the ends of the ligaments. The least rough handling may tear them, and too much poking within the wound by unskilful exploration is apt to produce a condition favorable to hernia, and favorable to the induction of suppurative action. Then in cases of old retroversions or flexions, in which the posterior portion of the fundus uteri has become more or less hypertrophied, the operation will only yield partial *immediate* relief, and it is through time alone that the altered circulation will affect the dense uterine tissue, and alter for the better the nutrition of the organ. That it does do so, is shown in one case in which menstruation has been re-established after a long lapse of years.

It is better to cut off about one inch of the ligament, as the extremity usually sloughs. The manipulation required even in experienced hands is an obstacle to the chances of getting the wound to heal by first intention; but with more frequent opportunity I am becoming sure that this may be obtained in the majority of cases. The catgut used should be prepared to withstand the action of the tissues for ten days; and in addition to stitching the ligaments to the pillars of the ring, the sutures bringing the external wounds together should pass through the ligamentous tissue that projects from the ring.

Case of Intestines Adherent behind Uterus, Causing Intense Pain, Relieved by Abdominal Section.

Mr. Lawson Tait reports this case in the *London Med. Times*, July 19, 1884: S. B., aged 32, presented herself at the Birmingham Hospital for women early in November last, complaining of constant pelvic pain dating from her last confinement, and much aggravated by the patient having "strained herself" six weeks before. On examination, the uterus was found to be somewhat fixed, with a mass behind it, very tender on pressure, and clearly cystic. But for the fact that she complained of no increase of pain before or during menstruation, I should have diagnosed the case to be one of occluded and distended tube. As it was, I made no diagnosis, but advised abdominal section. This the patient readily agreed to, and I performed it on November 8th. I found a good deal of matter in the pelvis, and a coil of intestine adherent in the cul-de-sac. I undid the adhesions without much difficulty, and closed the abdomen. She left the hospital on November 28th, and has been entirely free from pain since. I have just seen her (July 7th), and find that she has had no return of her old symptoms, and is in perfect health.

This case is a very instructive one, for the physical signs were precisely those of pyo- or hydro-salpinx; and if it happened that the patient had suffered much at menstruation, I certainly should have set it down as a case of one or other of those diseases. Suppose that, under this belief, I had acted as some (who have had no experience) advise—suppose I had tapped from below—I should have done no good; I should probably have made my patient worse; I might even have killed her. On the other hand, following my rule of opening the abdomen, I was able, with very little difficulty, to cure completely a condition which distressed the patient, which put her in constant risk of her life, and for which no other remedy was possible.

Destruction of Uterine Tumors By Electrolytic Puncture.

Before the late International Medical Congress, Dr. P. Menière (Paris) advocated the destruction of uterine tumors by electrolytic puncture. This, he said, constituted an operation which was effectual and of little danger, provided that it were practiced, not by the vagina, but across the abdominal wall. It was indicated—(1) when medical treatment had failed; (2) when the fibromata were very large, and also only slightly movable; (3) when they endangered the life of the patient by continuous metrorrhagia or grave general trouble; (4) it was a final resource in cases where total removal was impossible. This operation had already been practiced by Cutler in 1871, Broure in 1873, Kimbal in 1874, Cintselli in 1875, and Semeleder in 1876. But their operative procedures differed, were very vaguely described, and were little known in Europe. In face of the marvellous results which he had got in six cases, the results of which were indelibly fixed in his memory, it seemed to him to be of interest and useful to call the attention of the Congress to this point of gynæcological therapeutics, and particularly to the manual method of procedure, on which he had, after numerous trials, finally settled. The instruments employed were: (1) a battery of the continuous current of Gaiffe, with twenty-four pairs of zinc-plates, and galvanometer divided in milliampéres; (2) gold needles, ten centimètres long by a millimètre and a half thick, flattened and pointed at their extremities (of lance-shape, with cutting edges); they were isolated for a length of seven centimètres by means of resinous varnish, dried and calcined in the flame of a spirit lamp; (3) a needle propeller, with a graduated stop-notch, so as to insert the needles to a depth previously fixed upon; (4) light and flexible conducting wires, joined to the needles by means of a *serres fines*. The operation was, he said, repeated twice a week, or every ten days, in case of inflammatory accidents; the sittings lasting twenty minutes, from the insertion of the positive and negative electrodes to the depth of eight centimètres. A current of from forty to fifty milliampéres was used;

and, after the extraction of the needles, the cutaneous orifice was closed with collodion.

The Cæsarian Section and its Modifications.

Before the late International Medical Congress, Professor **Mueller** (Bern) read a paper on this subject. He said that the prognosis in Cæsarian sections had been hitherto very unfavorable, the death-rate exceeding 80 per cent. The recent advances in surgery, especially the improvements in laparotomy, had had an influence on the operation, which was shown by the endeavors to successfully combat the loss of blood and sepsis. This object was sought to be attained by two essentially different ways; the modifications were either radical or conservative. In the radical modification, the source of hemorrhage and of septic infection was cut off by removing the uterus; in the conservative, the uterus was retained, and an endeavor was made to ward off these dangers by careful treatment of the uterine wound. Both methods had doubtless certain advantages; but theoretical considerations could not support the radical modification. Yet, in regard to this matter, the result must turn the scale; the operation which was attended with the lowest mortality must be accepted as the best. The death-rate of the radical operation was about 50 per cent.; but trustworthy statistics were wanting with regard to the conservative method, of which there has been, as yet, less experience than of the former. It therefore remained yet to be decided which operation should be preferred. If the conservative method should gain recognition, another condition would have to be fulfilled, namely, to protect the woman against rupture of the uterus in a subsequent pregnancy, and against the danger of another Cæsarian section; and this would have to be done in a much more satisfactory and safe way than had hitherto been the case.

A Case of Double Uterus and Vagina.

In the *Boston Medical and Surgical Journal*, Sept. 18, 1884, Dr. J. W. **Elliot** reports this case:

The patient was thirty-four years of age, had been married sixteen years, and complained of sterility, constant pain in the lower part of the abdomen, dysmenorrhœa, mental depression, and nervous spasms. On April second she entered Dr. Elliot's private hospital, and was examined under ether. There were two separate vaginæ, both slightly smaller than usual; the septum, about one-eighth of an inch thick, began just behind the hymen. At the end of each vagina was a cervix slightly smaller than normal. A probe could be passed into each cervix. The bimanual examination showed distinctly that there were two independent uteri; both were enlarged; one anteflexed, the other in about the normal position. The patient was afterward seen during menstruation, and the menstrual flow came from both uteri.

Dr. Davenport asked if examination had been made by rectum.

Dr. Elliot replied that rectal examination gave the same result as by vagina; the finger passed behind both cervices and felt the double fundus above; without ether, however, nothing could be felt but the double cervix.

Dr. Chadwick expressed skepticism as to whether a double uterus could attain such a size as the reader had stated, since the double uterus was usually an arrested development, and therefore smaller than the normally developed uterus.

Dr. Elliot said that the size of the double uterus was large in this case; he thought the bodies were dilated by fluid, there being stenosis at the ora interna. The menstrual flow is profuse.

The Early Performance of Ovariotomy.

Before the late International Medical Congress, Mr. **Knowsley Thornton**, of London, read a paper on this subject. He first considered whether it was ever right to interfere with an ovarian tumor by tapping or by aspiration. Spencer Wells, Keith, and Thomas were in favor of tapping; and many other leading ovariotomists encouraged it. He gave quotations from Gross, Emmet, and Lawson Tait against the practice; and referred to the doubtful advantages claimed for this proceeding compared with its dangers and its immediate and remote mortality. He said that exploratory incision was far safer and better in doubtful cases. Tapping should be condemned, except in some very rare occasions. He would always remove an ovarian tumor as soon as it was large enough to be abdominal and slightly stretch the parietes. There were objections to operating earlier, except in special cases. The danger was in delay. Pathological changes in the cysts might lead to the escape of their contents, and to the formation of adhesions; or the pedicle might become twisted. He adduced illustrations of the dangers of delay, drawn from over four hundred ovariotomies he had performed, including forty cases in which ovarian fluid was free in the peritoneum, and thirty-four cases of twisted pedicle. He then summed up by considering the following questions: 1. Is tapping ovarian or parovarian cysts, or cysts of the broad ligament, ever justifiable; and if so, what conditions justify it? 2. Can any fairly general and defined rule be laid down as to the proper time at which to perform ovariotomy; and if so, what conditions justify an earlier or later operation? He concluded by appealing to the profession to still further improve the brilliant results of ovariotomy, by condemning tapping and supporting early operation.

Ague in the Fœtus.

Dr. **Rudolph Albrecht**, Prosector to the Obuchoff Hospital, St. Petersburg, describes in the *St. Petersburger Medicinische Wochenschrift* two cases of ague in the fœtus. Both were in the seventh month of uterine life; and in one case the mother had been seized twelve days, and in the other thirty-eight days, before confinement, with high fever, rigors, and profuse perspiration, with intervals of defervescence lasting several days. In each case the spleen of the fœtus was enormously enlarged, and very hard and brittle. In the first case, a great number of motionless spirochætæ were found in the blood. The infection of the fœtus, and consequent development of one of the chief pathological features of ague, was thus evident; and the presence of the special organism made one case complete. Dr. Albrecht believed that the spirochæta might have passed in its perfect form through the placental vessels into the fœtal circulation, but that it more probably entered the fœtus as a spore. Careful comparison of the two cases led him to the conclusion that the ague first seized the mother after the usual five to eight days of incubation; and then, giving her the power to infect her unborn offspring, it thus passed to the fœtus, which also passed through a separate period of incubation. This interesting record of intra-uterine disease recalls the paper read by Mr. J. B. Sutton at a meeting of the Royal Medical and Chirurgical Society last March, wherein the author strongly urged the necessity of systematic examination of the bodies of all still-born children.

A Twin Birth With Membranes Intact.

Dr. A. M. Pratt reports this case in the *Pacific M. and S. Jour.*, July, 1884: I was called about midnight to attend Mrs. S. Her husband bade me hurry, as the babe was born. I found her on her knees on the carpet, the baby crying lustily. She informed me that not feeling well, she had risen and was pacing the floor. As she had felt no pain, labor was entirely unexpected. Suddenly she had a furious pain, and not being able to step or stand, she dropped to the floor, and before her first and only pain ceased, the babe was born. While I was tying the cord, she quietly remarked that the after-birth had come. Obeying an impulse to see that after-birth, I moved aside a fold of the night-dress, and instead of an after-birth I found a second infant, the membranes of which were intact. Both children are alive to-day. The odd features of the case are, that for the first child there was but one pain, but that a furious one; the birth of the second being without pain, and with unruptured membranes.

Electric Treatment of Uterine Myomata.

Before the late International Medical Congress, Dr. Apostoli (Paris) proposed a new electrical treatment of uterine fibromata, distinguished by its point of application, nature, intensity, and its manual mode of application. To the old procedure of the application of continuous currents to the cure of fibrous tumors—characterized (1) by very feeble electrical intensity; (2) by the vagina being oftenest the point of application of the positive pole—he opposed a treatment always more active, since it reached 100 millimetres of intensity, and was always intra-uterine, acting along the whole depth and extent of the uterine mucous membrane. A clinical experience, extending over two years, upon over one hundred cases, had shown that the treatment constantly reduced the size of the uterus, and completely restored the patient.

Extirpation of the Carcinomatous Uterus.

A. N. Solowjeff reports ten cases in which he removed the carcinomatous uterus, by the vaginal method, in 1881–83. The results were as follows: Seven recovered, and are living now, and three are dead. Of the recoveries, two (one twenty and one eighteen months after the operation) have had no return of the carcinoma; in one case recovery seems to be complete; in two no anomalous conditions are found near the cicatrix; in one there are nodules in the cicatrix; one lost sight of. Of the three fatal cases, the disease returned in the broad ligaments in one; a portion of the growth was left in the broad ligament in another; and the third died of septicæmia.—*Centralbl. für Chirurgie*, August 2, 1884.

VII. SURGERY.

A Quarter of a Century's Surgery: Its Lessons, its Failures, its Disappointments, its Prophecies.

The following address was delivered before the Sheffield Medico-Chirurgical Society by Dr. A. JACKSON (*Med. Press*, July 9, 1884):

I hope the members of this Society will not think me presumptuous in bringing forward the history of Surgery during the last quarter of a century. My excuse is that we go on from one thing to another, drifting, as it were, into changes of treatment, forgetting the advantages of the old, without quite seeing at the time where we are going to and what we are doing. I should like to call to your recollection the surgery of the time when I left school (1860), to compare it with what is now practiced in every hospital in the country, so that we may see how great a revolution has occured in everything connected with our art, and especially with regard to treatment.

"Surgery," said Mr. Erichsen at the International Medical Congress, "is never stationary. To be stationary while all round is in movement, would be practically to retrograde. But movement does not necessarily mean advance. The general direction of the movement may undoubtedly be forwards, but the factors of that movement do not equally tend to progress."

We have entered upon a new era in surgery; we have given up much that was laid down as law in years gone by; and I cannot help but think that a retrospect made from time to time would sift the wheat from the chaff, the good from the bad, and enable us to retain what is useful and to put aside what is worth nothing.

What, then, are the lessons we should learn by a consideration of this period of surgical history? To what are we indebted for the great commotion, or progress—whichever view be taken of it—in the surgical art? To anæsthetics and antiseptics, taking the latter in the wildest sense of the term.

No one can realize, except those who have witnessed it, the great increase in the number of cases in which anæsthetics are employed, not only for operative, but still more for diagnostic purposes, and a great improvement in accurate diagnosis is the result. For this purpose I think we should do well to have recourse to it oftener. How different tumors and joint diseases appear when muscles are completely relaxed! How many mistakes have consequently been avoided; and how many more might have been avoided, if, after the administration of the anæsthetic, a careful examination had been made.

But there is nothing to be said on the other side which we might well lay to heart with advantage to our patients? Familiarity with them has led us to be too careless in our examination of patients before their administration. Instead of the careful examination of patients before the day of operation as well as at the time, the latter is made often in a very hasty manner, with considerable bustle and noise going on in the theatre. To this fact, I think, may be ascribed the more frequent deaths from chloroform which have occurred in recent years. There is another factor also to be taken into consideration, and that is in former days they were administered by permanent officers, whereas now this important duty is delegated to those who only hold office for a year or two. Another danger of anæsthetics has been, and still is, that operations are now dawdled over, and not so quickly performed as they used to be; and we have not sufficiently realized the part result of this in the success or failure of our operations. A clear and accurate diagnosis is not now thought as necessary as it was formerly, and operators have consequently not as definite an idea of what they are going to do. So far as it is possible, an operation should be well conceived and clearly sketched in the mind of the operator.

In considering the influence of antiseptics upon the surgery of our time, it should be considered in its widest sense; not in the limited sense to which the term "Listerism" is applied. Mr. Lawson Tait, Mr. Savory, and Dr. William Roberts, have proved clearly that healthy living tissues cannot be successfully inoculated with septic bacteria—they cannot grow in them; and clinical experience has proved the same. From the so-called antiseptic treatment has come increased cleanliness of instruments, hands, wards, and air; increased attention to drainage; but these points were already being successfully carried out when the antiseptic treatment was floated, under, what I believe to have been, a false idea of safety. We have, however, learned that we may go further than was done in former days, and in many cases with advantage. We have learned to dress our wounds less frequently; to expose them less.

But while chloroform and antiseptics have had their advantages, have they done no harm? I think they have. What a terrible tale would abdominal sections tell, were they all recorded *accurately*, after the able method of Sir Spencer Wells! How often have they been done unsuccessfully! I am not alluding to ovariotomy, for that is one of the few successes of the last twenty-five years—a success founded upon a rock, which neither the winds of fashion nor the fickleness of the English people will ever shake. I am alluding more particularly to the exploratory operations for the relief of internal strangulation; for the relief of pain; for caries of the spine; and also to those cases where portions of the stomach and intestines have been removed, gastrostomies performed, etc., etc. As Mr. Erichsen puts it, "Will the surgery of our time record 'surgical triumphs or operative audacities?'" May I substitute the word "atrocities?"

Far be it from me to say that these operations are wholly unjustifiable. I have sinned—in my opinion—many times. But is it not time to pause and consider whether they are justifiable; whether they are successful sufficiently often to continue them; and to try and perfect our diagnosis, before we make this a permanent operation. Syme, fifty years ago, used the word gastrostomy and condemned the operation; and I think we are bound to have stronger reasons than we have at present for running counter to the judgment of one of the greatest surgeons of the century.

The St. Bartholomew's Hospital Reports (1884) record twenty-one abdominal sections, with nineteen deaths, exclusive of ovariotomies.

Osteotomies are another result of anæsthetics and antiseptics. They have, without doubt, been wonderfully successful; time will show whether they are permanently so. Time will show whether McEwen's or Ogston's operation is the best; whether we had better let crooked tibiæ alone, or what we had better do with them. But are there no accidents, sometimes leading to death, of which we hear nothing? Mr. Langton, of St. Bartholomew's, has, all honor to him, published one. I know of others; and it is highly probable that the popliteal has been wounded both in Ogston's and McEwen's operation on the femur. I have had two ununited compound fractures of the tibiæ in the same child—made by myself—with necrosis (they have united since I wrote this paper), which have caused me the greatest misery. A boy on whom I performed Ogston's operation, with the strictest Listerian precautions, is still under my care, having had pyæmia and an empyema. Would not both these children have had happier lives and better prospects of success in life with their crooked legs and without the operation? Have we realized the extent of the calamity which it is to growing children to have a serious illness and prolonged confinement in bed? One other fact I should like to mention with regard to osteotomy. They were performed by Esmarch in 1861, before the antiseptic treatment was commonly used.

With regard to the treatment of diseases of bones and joints, more particularly the hip, the knee, and the tarsal bones, are we where we were twenty years ago? With regard to the hip-joint and the tarsal bones, I think we are. The recognized modes of treatment of the hip-joint have failed. I do not mean in every case, but in the majority. I think excision of the head of the femur has failed because enough bone has not been removed, and it has not been resorted to early enough; but so far as I know at present, it is the only mode of treatment with any chance of success, except in the early stages. Excision of tarsal bones or gouging them out may also be classed amongst our failures; and I would urge a more frequent resort to Syme's operation.

Excision of the knee-joint has established its position in spite of the prophecies of Syme and others. I am inclined to think we ought to try more frequently for a movable joint and the removal of diseased portions of bone only. I see occasionally a girl, whose knee-joint I excised four or five years ago, who has got good movement, and can walk comfortably several miles a day. I am inclined to think that in the rage for conservative surgery years ago, we lost sight of the fact that prolonged illness in youth often leads to serious constitutional mischief in after life, even though the local ailments may be cured, whereas, if amputation had been performed, a moderately active life might have been pursued. If it is right to amputate the thigh in a case of disease of the knee-joint, why not at the hip and ankle for similar diseases? I believe the first Hey was more successful in these cases than we are now.

The same failure seems to me to have occurred in cases of strangulated hernia. We are often still without any certain guide as to whether to operate, or not. Unnecessary operations are still performed, and thousands of operations must have taken place in that time.

While in the treatment of internal cancer, we have been called upon to witness great commotion, if not progress—while in the treatment of mammary cancer, we are urged to clear out all the glands of the axilla, so that nothing be left likely to be infected—a strange inconsistency has arisen with regard to osteoid cancer, especially with regard to the lower end of the femur; and an attempt is being made to run down the time-honored rule of amputating at the hip-joint.

The current literature of the day has begun to harass the treatment of wounded arteries, and we gather thence no fixed rules for treating wounded posterior tibials, ruptured popliteals. The laws of G. J. Guthrie have been questioned, and an attempt has been made to urge the ligature of the main artery at a distance from the wound, a treatment fraught with danger to the patient and disappointment to the surgeon, and only very rarely successful.

What a deal of commotion, without progress, has there been about the ligature of arteries, the temporary ligature of Dix, the temporary forceps of Nunnelly, acupressure, torsion: all have had their day, and all have practically given way to the ligature. Ambrose Paré is still triumphant.

Every department in surgery has been harassed and unsettled; no one knows better how much has been done in this way than the unfortunate man who has to lay down laws for the students in lecture; for in the very outset, with regard to the treatment and dressing of an incised wound, the treatment of a fracture, there are no rules, no laws; each man does that which is right in his own eyes, and there are almost as many different methods of treatment, as there are clinical teachers.

Each hospital has its own particular way of treating broken bones. We have the same miserable sequelæ, ankylosed joints, œdematous legs, pain, thickening, want of power, as formerly; and no one stops to think if anything can be done to prevent their occurrence.

Oh, that several workhouse medical officers would write a book on the Sequelæ of Hospital Surgery! Such a book, with a hospital surgeon's account of his mistakes, would do more to advance surgery than the publication of so many successful cases. The treatment of empyema is now one of the burning questions of the day; and we find men advocating the removal of a portion of, not one rib only, but of four or five; and we are asked to consider the propriety of draining pulmonary vomicæ, and the removal of portions of lung. "Are these surgical triumphs or operative audacities?"

In the operations on the kidney, in the substitution of lithotrity at one sitting for lithotomy, I think we have got real and permanent improvement, as well as in the draining of irritable bladders (first adopted thirty years ago by Paget, of Leicester), and the removal of vesical tumors; but, on the other hand, doubts are being thrown upon the ordinary treatment of stricture and enlarged prostate. The use of the silver catheter is condemned, and a scare has been set up about catheter fever.

The medical treatment of surgical diseases is practically *nil.* Iodide of potassium, syrup of iodide of iron, and a little opium, form the bulk of the drugs used, and mercury has been abandoned in obedience to the mischievous report of the Edinburgh Commission.

Gynæcological surgery is equally disappointing: the removal of ovarian and uterine tumors has been satisfactorily justified; but what about displacements of the womb, abortions, and some smaller ailments? Do we know at all, when these displacements produce symptoms or not? Do two medical men ever agree on that point? Pessaries are introduced by us all, and now a warning note has been sounded by our German colleagues that pessaries, morally and physically, are wholly bad. Will any attempt be made to settle this question? I guess not, if we may judge from past history.

In a deal that is now called new, and brought forward as instances of progress, we are now only returning to the modes of treatment suggested and practiced in days gone by. The ligature of the sac for the radical cure of hernia was many years ago practiced by the elder Teale. Cystotomy for irritable bladder was introduced by Paget, of Leicester. The kidney was successfully removed twenty-five years ago; osteotomy twenty-four years ago.

To sum up, I am inclined to think that, in future, we shall find surgery stepping in and dealing successfully with ruptured bladders, perforating ulcer of the stomach, and kidney disease; but I do think we ought to make a stand against performing large operations on internal cancer until we know more about their laws of recurrence. I think we ought to watch with very great jealousy the results of our osteotomies, our abdominal sections, and drainage of pulmonary vomicæ. We ought to try to find out what is the best treatment for spinal disease and diseases of bones and joints in their early stages; to invent some more satisfactory way of treating fractures; and to publish more of our unsuccessful cases.

I hope no one will go away with the impression that I am hostile to improvement—that I wish to stand still. Nothing is further from my thoughts; but it does seem to me that we are going too fast; that we are harassing and unsettling many branches of our art without improving them; that in other branches we are standing still; and in some we are retrograding. Our time will show great commotion and surgical audacities. Will they prove to be progress and surgical triumphs?

On So-called Abscesses of the Frontal and Maxillary Sinuses, and Especially on the Value of Percussion as a Means of Diagnosis, and the Proper Operative Measures for their Relief.

W. W. Keen, M. D., read the following paper before the Phila. Academy of Surgery, June 2, 1884:

I have used the term "so-called abscesses" as, properly speaking, these are not strictly abscesses, but accumulations of pus in normal cavities. But the term, though loosely used, is perhaps the briefest and best, and is not really likely to lead us astray.

Both of these cavities are lined by continuations of the mucous membrane of the nose, and as is natural, therefore, one *cause* of such abscesses is a chronic or occasionally an acute nasal catarrh. Indeed, it is surprising that such results are not more frequent, in view of the very numerous cases of the latter malady, whether as a chronic nasal catarrh, or as in the ordinary acute "cold in the head." In the latter, the frontal sinuses especially are very frequently involved, as is shown by the frontal headache, and the sudden and abundant escape of thick, ill-smelling, greenish discharge. That abscess of the frontal sinus is so rare is probably due to its effective drainage by gravity, as well as to the size of the infundibulum. In over twenty years of active practice, I have seen only the two cases here recorded; and Dr. Harrison Allen, who saw the first case with me, informs me that in his extensive experience with nasal catarrh, this is the only case he too has seen.

Another cause of abscess in the antrum is dental caries, or alveolar abscess. According to Salter, this is the most frequent cause of antral abscess, and this view is sustained by the number of cases recorded by him, and by Garrettson, Jourdain, and other dentists.

Sometimes mere closure of the orifices of these sinuses is sufficient to cause abscesses, by the want of proper "ventilation" of the sinuses, the retention and decomposition of the secretion, and subsequent irritation. But this closure is usually merely due to tumefaction of the mucous membrane consequent upon catarrhal inflammation.

Traumatism may also occasionally be assigned as a cause; both accidental, as from blows and such like accidents, or surgical, as *e. g.*, Langenbeck reports two cases following resection of the infra-orbital nerve (*Archiv klin. Chir.*, xi., 1869).

In the frontal sinuses, though occasionally in the antrum also, especially in tropical climates, the larvæ of insects are sometimes causes of abscess, as is mentioned by Allen, Hyrtl, Dumesnil, Bordenave, and others. Galezowski* reports one curious case caused by a small splinter of wood in the root of the first left molar, which had been long carious. Low fevers also have occasionally produced such abscesses; occasionally also syphilis.

The *symptoms* are both local and constitutional. The constitutional symptoms are alike in the two disorders, chill, fever, thirst, sleeplessness, etc. But it is to be noted that they may be, and generally are, entirely absent, especially if the case is subacute or chronic, as in both of the cases recorded hereafter. On the other hand, they may be of exceptional severity, as in the case recorded by Dr. Muir, of Madras (*Edinb. Med. Jour.*, 1866), in which death occurred in sixteen days from intra-cranial suppuration and epilepsy. Foucher and Van Boeneck also have reported fatal cases.

The local symptoms will vary according to the sinus involved. In abscess of the *frontal sinus* there may be pain in the forehead, often neuralgic in character, and following the nervous branches; a feeling of stuffiness in the head and nose; profuse or more frequently only moderate discharge of nasal mucus and pus. The mechanical symptoms will often predominate; sometimes, as in the case below, to the exclusion of the others. The pus will gradually increase, and will cause either expansion of the cavity or perforation of one of its walls. The expansion may be bilateral if there be no partition between the two frontal sinuses, or unilateral if the septum be complete; exophthalmos may possibly result, as shown by Salter and Soelberg Wells. If perforation occur, it may penetrate either of the three walls. Most frequently it will penetrate the thin roof and bore into the anterior fossa of the skull, and may cause meningitis; or it may penetrate the floor and so escape into the orbit, the site of the orifice being in some cases far back in the orbit; or, thirdly, it may open anteriorly above the eyebrow. It should also be remembered that openings may exist in any one of these situations, either as a result of atrophy or of faulty development, as has been best shown by Zuckerkandl. These most frequently exist in the orbital roof. If such perforations occur under the external skin, the escaping pus will form small and gradually enlarging soft tumors, reducible by pressure or by recumbency (an important point), and showing fluctuation if of any size. The character of the contents can then be easily determined by the hypodermic syringe or the exploring-needle. They may readily be mistaken also for sebaceous or other small cysts, or for tarsal or orbital tumors, an error easily corrected by attention to the points just mentioned.

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* Bousquet, Etude sur les Abscès développés dans le sinus maxillaire, Paris, 1876.

In abscess of the *antrum* the pain is deep-seated, and is apt to be referred to the teeth and the cheek, though it may sometimes radiate to considerable distances; a sense of fullness is perceived; if the nasal orifice is patent, pus will escape from the nose, and it is to be observed that it escapes from only the affected nostril, and if that nostril be cleansed and the patient lie upon the sound side, it will readily refill. If the roots of the first and second molar penetrate the antrum, as is not infrequently the case, the pus may escape by this easy channel and may destroy one or both of these teeth, thus transforming what is a frequent cause of the disorder into an effect. But if the pus be pent up, distension will also occur here, ending finally in perforation. If the orbital floor yield most readily, exophthalmos and even permanent amaurosis may result, as in Salter's notable case. The pus may even pass by the ethmoidal cells and orbit into the cranial cavity, as in the cases of Foucher and Van Boeneck, already referred to (Bousquet, op. cit.), or it may push down the roof of the mouth, or push out the anterior wall forming the cheek. In all these cases great deformity exists, both from the distension of the bone and the inflammatory swelling and œdema of the soft parts; and if the pus escapes through the cheek, instead of the mouth, unsightly depressed cicatrices result. With distension of the anterior wall comes also marked thinning of the bone, so that it will often crackle like parchment, and fluctuation may be perceived. Such swellings may be even mistaken for malignant diseases, and Heath, Agnew, and Broca mention cases of removal or impending removal of the jaw for a disease perfectly amenable to simple operative treatment.

The *diagnosis* of such abscesses is in general fairly easy, based upon the symptoms already stated; but one means of diagnosis that has served me a good turn I have not found mentioned in any of the text-books or special treatises I have consulted, viz., *percussion*. Even in the frontal sinus, if the median septum be complete, percussion will give an appreciable difference of tone on the two sides, the affected side being of course the flatter of the two; but in the antrum this is unmistakable to a practiced ear. In fact, as will be seen, the diagnosis in the second case to be related was based largely on this physical sign. Of course, it would not assist us to diagnosticate between an antrum filled with pus and one filled with a cyst or solid tumor; but taken in connection with the other symptoms present, it will go far to make certain that which is already probable. The operative treatment will be discussed later.

Case I.—Abscess of the frontal sinus, resulting from chronic nasal catarrh; perforation of orbital roof, anteriorly; operation; cure.

Rev. Dr. W., æt. 54, for many years a sufferer from nasal catarrh and asthma, about two and a half years ago, casually called my attention to a small tumor as large as a large pea, just below the inner end of the right eyebrow, which he stated had existed for some months. Examining it very hastily, I judged it to be a small sebaceous tumor, and told him if it enlarged any to consult me again, when, if need be, I would remove it. I saw him at frequent intervals, and a year or so later observed that it had enlarged slightly, and was becoming a mechanical obstacle in opening the eye. He then told me he had repeated observed that on rising in the morning it was not perceptible, and only reappeared a short time after assuming the erect posture. I found that steady pressure would cause its disappearance in a few seconds, when the finger perceived an opening in the frontal bone about one-third of an inch in diameter, immediately below the inner end of the supra-orbital ridge. Percussion also showed a slight difference in the sound over the two frontal sinuses, the right being slightly duller. He had had for a long time a moderate and somewhat offensive nasal discharge from his nasal catarrh, but no increase recently, and no blood had been observed. Of late there had been a feeling of fullness in the right frontal region, but no real pain or other marked discomfort, and no constitutional disturbance. In view of the physical signs and his chronic nasal catarrh, I then diagnosticated an abscess of the right frontal sinus; aspiration by a hypodermic needle confirmed the diagnosis by revealing the contents to be an offensive, thick pus. Dr. Harrison Allen kindly saw him also, and confirmed the diagnosis, and assisted me in the operation. On February 21, 1883, I gave him ether and laid bare the opening by an incision about half an inch long, which gave exit to about two drachms of pus. The probe showed that the right sinus was completely separated from the left by a septum, that it was about half an inch deep antero-posteriorly, and that the internal surface was bare of mucous membrane, a curious fact in view of the complete recovery without necrosis. By a grooved director, slightly curved, I bored a passage with ease into the nose, washed out the sinus with carbolized water, and carried a rubber drainage-tube through the upper orifice into the nose, and as far as the opening of the right nostril, securing it in place by a thread. The nose was examined by the finger and probe, and a small piece of dead bone was removed by the forceps. The bleeding was slight. Moderate reaction followed for a couple of days, the temperature rising to 100.2° and quickly subsiding. Considerable pus was discharged by the nose. The cavity was syringed thrice daily by carbolized water. At the end of three days, as the discharge had much diminished, a small bundle of horse-hairs was substituted for the rubber tubing, and these were gradually removed during the next five days, when a single hair was left. At the end of the second week this was removed, the discharge then having ceased. The opening closed in a day or two. From then till now, a period of sixteen months, there has been no further trouble, save the nasal catarrh, for which he is now under Dr. Allen's care. The nose, I should say, is very high and narrow, and the walls in contact on the right side.

Case II.—Abscess of the right antrum, arising from a cold in the head; operative perforation of anterior wall; cure.

Mrs. A., æt. 36, a delicate woman of a nervous organization, while in the country during the summer of 1882, caught an ordinary "cold in the head," which persisted for weeks in a moderate form with a slight muco-purulent discharge. She consulted me for it in November, 1882, but it was so moderate that I gave her simple remedies, and saw her but four times at my office from November, 1882, to March 1883. As the "cold" still persisted and had rather grown worse, I now examined her with care. She complained of slight pain in the right cheek, extending toward the inner angle of the eye, with a sense of discomfort and fulness. The teeth were sound, and there was no toothache. The discharge was somewhat scanty in the morning, but at about ten o'clock daily she had a pretty free discharge, enough to soil about two handkerchiefs. It was muco-purulent in character, unmixed with blood. From this hour the discharge lessened and was scanty during the rest of the day; it did not waken her at night; the amount varied somewhat on different days. The symptoms of "cold" were limited chiefly to the slight pain and the discharge. The nose was not blocked so as to interfere with respiration, except when obstructed with the discharge. Posture influenced the discharge only slightly. There was no fulness of the cheek, no thinning of the anterior wall of the antrum, no swelling of the overlying soft parts, no deformity in the roof of the mouth or about the orbital floor. Percussion over the two antra, however, revealed unmistabable dulness on the right side as compared with the left. This could only be caused by the growth of a solid tumor in the antrum, or by an accumulation of fluid in a cyst, or of free pus. The history, physical signs, and symptoms all seemed to point to the latter, and accordingly I advised an operation for its relief.

April 5, 1883, after giving ether, I perforated the anterior wall of the antrum, between the bicuspid and the first molar teeth, with a carpenter's triangular "counter-sink," using the instrument found in the ordinary set of tools that come in a hollow handle for household use. About a half ounce of non-fetid pus escaped. I then introduced a new Nélaton catheter and syringed out the cavity with carbolized water, till the water came away clean. Nearly all of the injection escaped by the nose, thus showing the antral opening to be patulous, and explaining many of the observed symptoms. Nothing was used to plug the opening and thus to prevent food from passing into the antrum, but to attain this object the diet was restricted to milk.

The reaction was very slight, the temperature never rising above 99.4°. For six days the antrum was washed out daily in the same manner, using smaller catheters as the opening contracted; two days later the opening closed, and solid food was then allowed. All the symptoms of the cold quickly disappeared, and no trouble has been felt from that time till the present, a period of fourteen months. The cicatrix is not perceptible.

The value of percussion as well as of the hyperdermic aspiration is sufficiently shown by the histories related, and it only remains to discuss the operative treatment.

As to the case of frontal abscess, it is not needful to say anything further; and in reference to the antral abscess, only the point at which it is desirable to puncture needs a few words.

A century ago Jourdain recommended catheterism of the antrum by the natural opening, but the commission appointed by the Academy of Surgery rejected the proposed operation as "difficult and uncertain," and more lately, Broca has confirmed the opinion that it cannot be done even on the dead subject. Still more recently Zuckerland* has proposed to penetrate by an artificial opening below the natural one, where only mucous membrane separates it from the nasal cavity. But such an opening is neither an easy nor a sure operation, in so narrow a cavity as the nose, especially if the side involved is the narrowest one; nor does it provide so effective drainage as the alveolar process or the anterior wall, where the suction of the mouth as well as gravity facilitates the escape of the pus. About the only advantage it has is that it avoids the possibility of the entrance of food into the antrum. But this is not a practical difficulty. Restriction of the food to milk for a few days avoids all danger; and, as a matter of fact, I find that no pains have been taken, or at least are recorded in the published cases, to avoid any such accident, and no mention is made of its having occurred.

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*Norm. u. Path. Anat. der Nasenhöhle.

Nearly all modern authors, as Heath, Garrettson, Agnew, Gross, Bousquet, etc., advise the removal of a tooth and penetration into the antrum through one of the sockets by a trocar or drill, care being taken that the force used at the moment of puncture shall not drive the instrument too far up and so wound the eye. If the first or second molar tooth be so carious as to be useless, so that it ought to be drawn anyhow, or if the disease arises from the tooth, of course it should be removed, and its socket used as a route for the perforation, not, however, by a trocar or drill, but by the surgical engine, as stated by Garrettson, since this will penetrate readily, and no danger of wounding the eyeball can arise. The first or second molar should be selected, inasmuch as their roots are directly in contact with the floor of the antrum, and even may penetrate its cavity.

But if these teeth are sound, or by treatment can be preserved as useful teeth, they ought in no case to be destroyed. To extract a useful tooth needlessly is little short of a surgical crime, as it inflicts an irreparable and serious injury. In such a case I would strongly advise the perforation of the anterior wall, either by the "countersink," which I used, or by the surgical engine. No special trephine is necessary. The operation is easy, effective, and harmless, and its results leave nothing to be desired.

Remarks on the Repair of Wounds and Fractures in Aged Persons.

In the *Brit. Med. Jour.*, July 12, 1884, Dr. G. M. HUMPHRY says: It will have been observed by others, as well as by myself, that ulcers heal quickly in old persons; that the processes of granulation and cicatrization proceed in them, on the whole, with even greater rapidity than they do at earlier periods of life. We see this more especially in the leg, because ulcers are much more frequent in this region than in other parts; but the observation is not confined to them. I have noticed this reparative activity in the aged under many circumstances and in various parts of the body; and, my own experience indicating that the same holds good with regard to wounds and fractures, and that the commonly-received opinion to the contrary on this head is erroneous, I ventured, in a note recently printed in the journal of this Association, to ask for information from others, that I might ascertain whether their experience accorded with my own.

My attention was first directed to the subject by the case of a man aged 88, who consulted me many years ago respecting a warty growth, with some ulceration, on the lower lip, which annoyed him, and which he wished to have removed.

I excised a large piece of the lip by the usual V incision, and the wound healed as rapidly and firmly as any of the kind I ever saw. About the same time, I operated for femoral hernia on a feeble woman aged 75, and the wound was soundly healed in three days. Several similar cases have come under my own notice, and some have been sent in answer to my inquiry; not so many as I could have wished, but enough to establish the fact of the quick union of wounds in old people.

The statement must be qualified in a manner which savors rather of the paradoxical; namely, that wounds in old people heal quickly, provided they do not slough. That is to say, two apparently opposite tendencies exist at this time of life—namely, the tendency to slough and the tendency to heal quickly. Such, for instance, is the experience of oculists, whose testimony on the subject I have asked. They find that the cornea sometimes sloughs after the operation for cataract in old people; but that, when it does not slough, the wound heals quite as quickly as, or more quickly than, at an earlier time of life. So in other operations. The old person may sink, or the wound may slough or ulcerate; but, if these eventualities be escaped, a quick healing may be expected.

Certainly this would not have been anticipated. We should not have thought, when the nutritive forces are generally failing, when strength and weight are diminishing, when repair is each year less and less able to keep pace with wear, as evinced, among other things, by the fact that exhaustion is more quickly induced and less quickly recovered from; when the brain is shrinking, and memory and other mental powers are lowering, and when the circulation is becoming weaker—that, under these circumstances, the nutritive or reparative processes concerned in breach-closing, in the healing of wounds and ulcers, should manifest an increase of energy—at any rate, of rapidity—in carrying on their work. I do not know well how to explain it; but this exceptional phenomenon of nutrition is not peculiar to old age. It may be observed in some other lowered conditions. The wounds in patients exhausted by large losses of blood usually heal quickly, as they also do after operations for cancer, and in many other debilitated conditions. I do not mean persons of naturally strumous temperament, but persons who have been weakened by illness or in other ways. So do. commonly, the gaps caused by carbuncles, and bed-sores; and very remarkable is the quick healing of the stump left by senile gangrene: that is to say, this evidence of vital energy is manifested in the part next above that which was unable to keep alive at all. An exception must be made of certain impaired conditions of the nervous system, in which wounds and sores are sometimes very troublesome.

The remarks I have made with regard to the repair in wounds and ulcers in old persons hold good also with regard to fractures. This is sufficiently proved by the cases mentioned below; and in one of these, given by Dr. Walford, it may be remarked that the limb, in which the fractured tibia and fibula united in three weeks, was partially paralyzed and nearly useless, the knee being contracted; and in Mr. Copley's case, the broken tibia in a most enfeebled helpless woman of 68 was pretty firmly united in two weeks.

Professor Gross, in his *System of Surgery*, observes that age is no barrier to union, and mentions the case of a lady aged 100, in whom union of a fractured humerus took place in the usual time; and that of a woman aged 93, in whom a fracture of the upper third of the thigh was united in seven weeks.

The contrary view, however, is prevalent. In Holmes's *System of Surgery* it is stated that, "in old age, the period is greatly protracted in proportion to the want of vigor of the individual." Chelius remarks that in advanced age the bone heals with difficulty. In the *International Encyclopædia of Surgery*, a doubtful opinion is given; and the prevailing impression respecting the time required is probably to be attributed not so much to observation of the fact as to an *a priori* feeling that it is likely to be so; for we know how often that which is probable is assumed to be that which is real.

Moreover, the circumstance that fractures of the neck of thigh-bone, which may be regarded as the old person's fracture, commonly does not unite at all by bone, the broken ends in many cases remaining quite separate, seems to give support to the view. It is well known, however, that this failure depends, not upon the age of the patient, or on any peculiarity in the structure of the bone, or upon any changes that take place in it during the later periods of life, though those changes are such as to cause rarefaction of its cancelli and greater liability to fracture, but upon other causes. Such causes, more particularly, are the separation of the broken surfaces, which commonly occurs; the buried position of the inner fragment in the cavity of the acetabulum, which prevents any overlapping of the fragments and any throwing out of uniting matter all around it; as well as the comparative absence, and when the fibrous covering of the neck is torn through all round, the complete absence, of tissue in which that material can be produced; and also the bulging of the fractured surfaces by the synovial fluid. That these conditions, which are found to be more or less prejudicial to bony union of fractures into other joints, and not senility, are the real causes of failure in the case of the neck of the thigh-bone, is proved by the fact, that union by bone will take at this part of the skeleton as well as elsewhere, if the fractured surfaces be fixed in apposition, either by any kind of impaction or by well adjusted appliances; and that this will occur in the aged has been often proved, and as is well shown by the specimen I show you of firm bony union, in a gentleman aged 81, who broke the neck of his thigh-bone a year before death. The treatment was very carefully conducted by Mr. Wherry, who was near by at the time of the accident, and who, recognizing the nature of the case, took every precaution to prevent further displacement of the fractured surfaces; in seven weeks, union had taken place so firmly that the patient could raise the limb from the bed by the action of the muscles of the hip. The breakage was close to the head of the bone, as is shown by a line of fibrous tissue joining the fractured surfaces in the hinder part; whereas, in front, the union by bone is so complete, that it is difficult at first sight to determine the line of fracture.

Notes of several cases have been sent me, in which union of broken neck of the thigh-bone in old persons was believed to have taken place, and in a short space of time; but, as the condition of the parts has not been verified by examination, and as in such cases it is almost impossible, without ocular inspection of the part, to determine whether bony union has actually taken place, I have thought it better to omit them from the series given below.

In the case of fractures, as in the case of wounds, a certain amount of nutritive vigor is necessary to bear, and turn to good effect, the vascular and other changes in the tissues associated with the work of repair; and, unless that exist, destruction by liquefaction or absorption of tissues may take place, instead of the condition requisite for healing. In the bones, indeed, a certain amount of absorption is the regular attendant upon repair. By it the surfaces in the proximity of a fracture are roughened and rendered porous to admit the new uniting material—the soft callus-medium—to grow into and form one with them, just as the surfaces of a brick are rough, that the mortar may run into and set in, and adhere to them, and form a mould. Sometimes we find that, in old and very feeble people, the one requisite for reunion after fracture—the work of absorption or destruction of the broken ends—takes place in excess; whereas the other requisite—the formative work of the new uniting material—is deficient. Accordingly, the ends of the bones become porous and worm-eaten, and little or no callus is produced. That has been the case in this oblique fracture of the humerus, which occurred in a feeble man of 86, while he was pulling himself upstairs by the hand-rail. He was afterwards extremely restless, so that no retentive means could be effectually applied; one of the broken ends made its way through the skin, and he died in three weeks. The bone is light, and is worm-eaten near the fracture, and there is only a little crumbling osseous deposit upon it. The same condition is seen in each of these two thigh-bones, one of which was taken from an aged subject in the dissecting-room, and the other bears all the marks of senility. I do not know the history in either case, but in both there are absence of new material and evidence of too free removal of the old.

In the contrasting features, therefore, of liability to utter failure and demolition of the injured part on the one hand, and in the power of quick repair on the other, the bones resemble the soft parts; and I trust that the question for the solution of which I have asked your assistance has now been sufficiently answered. It is now an established fact that the repair of wounds and of fractures takes place in the old persons as quickly as in the middle-aged; and we ought to hear no more of the disqualification for reunion which has been attributed to old age. That this is no unimportant matter from a practical point of view, is sufficiently shown by the case mentioned to us by Mr. Hodson, of Bishop Stortford, in which a fracture of the thigh-bone in an old woman was allowed to go untreated, because the medical man thought that at that time of life union of a broken bone was not to be expected.

Plaster of Paris in the Surgery of Children, and Mr. Churchill's Fixation Apparatus.

In the *London Med. Times*, July 19, 1884, Dr. John A. Shaw says: It is surprising how common amongst children are cases where treatment aims at either rest to parts, relief, or prevention of deformities. The restlessness and fidgeting of children makes it most difficult to obtain absolute fixation of a broken or deformed limb by means of ordinary splints and bandages. Their limbs and joints are so small and delicate that, no matter how carefully a splint is padded and bandaged, it is as a rule clumsy, and must be applied too tight, if the position is to be kept up or the child prevented from wriggling out of it. It is commonly supposed that the apparatus which is found sufficient to encase the limb of an adult will, with slight modifications, suffice for the limb of an infant or young child; but this is very far from being found so in practice. The points of application are so limited, and the skin so tender, that it is absolutely necessary to distribute the pressure and encase the parts.

The value of plaster of Paris splints in some shape or form is deserving of more prominent notice, especially as so many cases find their way to the out-patient room—patients who have come long distances from the country, either old consolidated deformities beyond relief, or cases of commencing curvature requiring a jacket, or other deformities requiring a splint or apparatus of some sort.

The following are examples of cases which are constantly under treatment at the Victoria Hospital:

(1) *Talipes Varus.*—In these cases it is difficult to adapt a suitable apparatus. The usual appliances are troublesome, and as a rule expensive. The smaller the foot the more unsatisfactory the apparatus, and notwithstanding all efforts, the foot will twist round to its original deformity. Scarpa's shoe, with its many screws and straps causing pressure on localized spots, is an apparatus which cannot be used with advantage in severe cases; the price too is prohibitory for poor people.

Mr. Churchill has simplified matters considerably by introducing an apparatus which he has kindly allowed me to describe.

The foot is first carefully and powerfully manipulated, the ligaments stretched, and the bones moulded as much as possible to the correct position.

A circle of webbing is fixed with letter clips round the foot, a strip of thick perforated tin about one inch wide is bent at right angles, the short arm of which goes across the sole of the foot, level with the joint of the great toe, and is clipped to the webbing previously applied. The long arm goes more than half way up the leg, and to the end of this arm a piece of string is attached. By pulling the string the foot is levered into a proper position, and is easily kept so by a plaster of Paris bandage applied while the extension is being kept up. The muslin clings to the jagged edges and perforations in the tin, and holds the foot with a firm grip. The flannel bandage must of course be previously applied to the foot, ankle, and leg, and the jagged perforations of the tin cling to the flannel so as to prevent rotation of the limb within the case.

The child may be allowed to walk about with this encasement, after it is properly set. In this way the astragalus and os calcis will be further moulded into the proper position by the weight of the body. Should the plaster of Paris break away, a new case must be applied after carefully moulding the tarsal bones as before.

Talipes Valgus.—In these cases the fixation apparatus is the same, but the tin must be applied to the inner side of foot and leg, so as to invert the foot and stretch the peronei and extensor muscles of the leg. The arch of the foot is generally so much collapsed that the child walks upon the inner side, and in addition to the tin, Mr. Churchill generally recommends a sausage-shaped pad, made so firm that the weight of the body will not materially compress it in walking, and this is placed across the sole of the foot, so that the tarsal and metatarsal bones shall be raised gradually into their normal position, and the arch of the foot be restored by centre compression.

In modified cases, where there is simple relaxation of the internal lateral ligament and flat-foot, the sausage pad with a spica bandage of plaster of Paris around the ankle will suffice.

(2) Fractures of femur and tibia, complete and incomplete, and separation of epiphyses, are common with children. The fibula usually escapes.

These can be treated well with a combination of wood or tin splint and plaster of Paris bandage. Venetian blind laths are very useful for this purpose, as they may be easily embedded in plaster of Paris without being bulky or projecting unduly from the side. The perforated tin as above described is also serviceable in all cases where the longitudinal splint is required. This combination of plaster of Paris and splint is most useful, and maintains a most perfect rest and apposition of the broken fragments.

For instance, in fracture of the femur, the usual perinæal band is constantly wetted, loose, and useless; while the long outside splint and bandage cannot be adapted sufficiently tight to ensure the requisite rest and apposition of the fragments. In the double splints and elastic or weight and pulley extension, the upper fragment moves with the child, and with every movement there is a cry of pain. Either at once, or, perhaps more safely, after the primary swelling of soft parts has ceased, a flannel bandage is applied from the ankle with spica round hip joint, and then round abdomen to thorax. On this one layer of plaster of Paris bandage is applied to cover all the flannel. Next an outside thin narrow splint from axilla to ankle; a little wool may be applied over the prominent points of pressure, and while extension is kept up another layer or two of plaster of Paris bandage is applied over all. As soon as dry the case may be varnished, which keeps it from being soiled. The child, thus having its pelvis and thigh fixed, may now be moved about without any pain or displacement of parts, and the result is most satisfactory. The plaster of Paris is apt to rub at the fold of the buttock, but a little care will obviate this.

The same method answers well in fractures of the leg. There is little or no displacement when the fibula escapes, which it usually does from its flexibility and protected position.

In fractures round the elbow-joint, which are very common, passive movement should be begun early.

(3) *Curvatures of Spine.*—Chiefly angular, but also lateral. Sufficient extension can often be obtained by an attendant lifting the young children up by the arms, and raising the chin and occiput in high curvatures, so that the use of the pulleys is avoided.

The jacket should always clip the anterior iliac spines; if sinuses exist, window holes may be cut in the jacket over them.

Jury-masts can be easily and cheaply made by a carpenter according to instructions.

A good broad soft pad sewn to vest, and hanging down from nape of neck, completely counteracts the pressure and pain of the upright bar and curve of jury mast. The usual costly leather straps to raise and sling the head are irksome and painful. The ordinary calico roller bandage may be used instead; one strip goes from one hook of the cross-piece, under the chin to the other hook; another piece in the same way under the occiput; and these are connected and sewn together by a small transverse piece below the ears. The comfort and simplicity are evident.

(4) *Rickets.*—To prevent further deformity and bending of lower limbs, either

plaster of Paris alone, or with outside and inside wooden splints, as previously described, and projecting below feet.

(5) *Osteotomies for Genu Valgum.*—Antiseptic dressings, put up at once in salicylic wool and a case of plaster of Paris.

(6) *Excision of Knee.*—A posterior narrow splint of metal, kept in place by a clip of plaster of Paris above and below the joint. The metal clip is curved posteriorly, and antiseptic treatment readily applied to incision.

(7) *Diseases of Joints.*—(*a*) In early stages of hip joint, and later after excision, when the wound is consolidated, a spica of plaster of Paris.

(*b*) In fixation of joints for strumous disease, especially knee, and if sinuses exist, holes may be cut over them.

(*c*) To prevent contraction of knee, before or after straightening.

Precautions.—The fear of causing undue pressure often prejudices the surgeon against the use of plaster of Paris, but with ordinary care there is no danger. A flannel bandage should envelop the parts comfortably; often it is found the flannel is put on too tight, and not the plaster of Paris. Of course, if there is obvious pressure, pain, or swelling, the case must be cut down. Often a little judicious clipping or stuffing with wool, or in case of a joint, the application of an ice-bag, will render it unnecessary.

The instruments now made make it most easy to cut down plaster of Paris cases.

It is safer, perhaps, for the child to be especially watched during the first twenty-four hours, and to be within reach of relief, and the friends should always be cautioned against pressure symptoms at any time occurring.

Jackets should not be applied to rickety, bronchitic, or phthisical children, or in any case of fear of embarrassed breathing. A laced poroplastic jacket might then take its place. It should also be remembered that some children improve and grow so rapidly on being sent into the country, that the jackets previously applied get too small and must be cut down and fresh ones applied.

Urgent pressure, symptoms are extremely rare if ordinary care is taken.

The Radical Cure of Umbilical Hernia.

Dr. W. Mitchell Roocroft thus writes in the *Lancet*, Aug. 2, 1884: True umbilical hernia is a disease of such frequent occurrence that cases are constantly coming under our notice as surgeons. It is a disease of infancy and childhood, being almost always congenital. When it occurs in adults we more frequently find it in women, especially those who have borne many children, or who are loaded with internal fat; and even in these adults I think that the disease commences in childhood, but is unnoticed or does not develop itself until the abdominal muscles have been weakened and the umbilical aperture relaxed by the pressure of the gravid uterus. When the hernia is small and reducible we can generally effect all that is desired by an accurately-fitting truss, though I doubt if a permanent cure is ever established by this method. It is in those cases especially which have grown to an enormous size as years have passed on, where the hernia is irreducible, the patient frequently suffering from flatulent distension, there is constant fear of obstruction or strangulation, or even where the surface of the tumor is covered with ulceration, either the result of neglect or a badly-fitting belt, that the surgeon feels it incumbent upon himself to recommend a means of cure beyond the usual methods of rest in the recumbent posture, strict attention to diet, and a belt or pad, etc. That such a means of cure exists, and is accompanied with less danger than is usually supposed, I hope the following notes may prove.

Margaret C——, aged fourteen years, was admitted under my care into the Wigan Infirmary on March 14, 1884, suffering from a large umbilical hernia, with ulcerations over the surface of the tumor. On examination I find the patient is decidedly hydrocephalic, and presents evidences of having suffered from rickets. Is only thirty-eight inches in height, fairly well nourished, not very intelligent, though can answer simple questions. The corneæ are dull, the result of chronic keratitis. Family history good, though the mother died during the patient's infancy from alcoholism, so the child was probably neglected. I learn from the relations that the umbilicus was injured at birth through the neglect of the midwife; but they first noticed a swelling in the situation of the present tumor six years ago, when the patient was about eight years old. Since then it has gone on increasing in size, and has become ulcerated. The ulcerations do not heal, and are extending. On examining the abdomen I discovered a large umbilical hernia, rather larger than a cocoa-nut, covering the surface of the abdomen from within two inches of the ensiform cartilage to a point about three inches above the symphysis pubis. The skin covering the tumor is moderately tense, and presents several ulcerations over the anterior surface. The ulcerations seem to involve almost the whole thickness of the true skin, and discharge very offensive pus. Upon trying taxis I find that I can reduce most of the hernia; but a portion remains behind, and is irreducible. I discover the umbilical aperture will admit three fingers easily; consequently, taking into consideration the probable space occupied by the neck of the irreducible portion of the hernia, it is about two inches in diameter. The tongue is furred, and she suffers from obstinate constipation. Temperature normal.

Taking all the circumstances of the case into consideration, the great inconvenience of the tumor, the inapplicability of a belt or pad, the liability to obstruction or strangulation, the fear lest the ulceration should extend into the sac and eventually establish an incurable artificial anus, with the anxiety of the relatives, and their urgent request that something should, if possible, be done to cure the patient, I decided to perform an operation which has hitherto been looked upon by surgeons as hazardous in the extreme. In order to prepare my patient for the operation, I gave instructions that she should remain in bed, to have milk diet, and the ulcerated surfaces to be dusted with iodoform, and absorbent pads repeatedly changed to render the part as near as possible aseptic. On March 20th I performed the following operation under carbolic spray, and with all necessary antiseptic precautions. The patient being under the influence of chloroform, as much of the hernia was reduced by taxis as possible. Two elliptical incisions were made, about five inches in length, uniting above and below, over the anterior surface of the tumor, including all the ulcerations. It was then found that the anterior surface of the sac was adherent to the skin, and could not be separated; so that the sac was opened and the skin between the incisions, together with and including that portion of the sac which was adherent, removed.

I then discovered that the irreducible portion of the hernia consisted principally of omentum, which was adherent to one side of the neck and adjacent portion of the sac. This was carefully separated, and the whole returned into the abdominal cavity. Four stout copper wires were next passed separately from without inwards on one side of the umbilical aperture, about half an inch from the margin, then involving the neck of the sac on both sides, and from within outwards, through the other side of the aperture, the point of the needle being the whole time guarded by my left index-finger. When the four sutures had all been passed, each was tightly twisted, and the aperture completely occluded. The ends of the wire sutures were brought out of the centre of the incision, and a drainage-tube inserted, traversing the whole length of the wound and protruding at each end. The sides of the incision were then brought together, except where the deep sutures escaped, with superficial carbolized catgut sutures, and the whole dressed in the usual antiseptic way, with plenty of crumpled dry gauze to absorb any discharge. I may mention that during the operation we had the greatest possible difficulty in retaining the intestines within the abdominal cavity. I had taken the precaution to have the bowels freely opened the day before the operation. I now ordered the patient to have no food by the mouth, but a little ice to suck, to check any vomiting or straining; nutrient enemata of two ounces of milk every two hours; the thighs to be flexed on the abdomen by means of a pillow under the legs, in order to take any tension off the abdominal muscles. A hypodermic injection of morphia at night if necessary. Night temperature after the operation 97°.—21st: Morning temperature 100°. Slept fairly well; did not require the morphia. Pulse 90; no pain. Has retained all the enemata but two; no vomiting. Evening temperature 101·4°.—22d: Morning temperature 99·4°. Slept well; milk enemata, alternated with one ounce of kreochyle, all retained. Wound dressed; looks well; no suppuration; little discharge, which has all been absorbed by the crumpled gauze. Evening temperature 100·4°.—23d: Morning temperature 99°. Slept well; feels very comfortable; no pain; enemata retained; says she is hungry, but still sucks the ice. Evening temperature 99·4°.—24th: Morning temperature 98·8°. Sleeping well, but complains of hunger; dressed; wound united in several places by first intention; no suppuration and little discharge; drainage-tube removed. From this date the patient continued to improve, the morning and evening temperatures remaining normal. The wound was dressed every second or third day and continued healthy. On the 25th the bowels acted naturally. On the 28th she was allowed a little of Brand's essence of meat by the mouth, and the enemata were discontinued. On the 31st the wound was dressed. A little suppuration was noticed, but the pus was not offensive. Two or three superficial sutures which had not become absorbed were removed.

April 4th.—In addition to the Brand's essence, to have two pints of milk per diem. Bowels acting naturally.—13th: Patient placed under chloroform. By slightly enlarging the superficial incision through which the ends of the deep sutures passed, these were snipped and withdrawn.—16th: Carbolic spray discontinued, dressed with an antiseptic absorbent pad; wound nearly healed.—19th: Temperature went up to 102°, but on dressing I found about two drachms of pus burrowing under one edge of the wound; on this being released, the temperature next morning returned to normal, and continued so.

May 1st.—Wound almost healed; patient discharged cured, but to attend for a short time as an out-patient. I saw her again on May 20th, when the wound had healed; there was a good firm cicatrix; the umbilical aperture seemed firmly and completely occluded, and the relatives assured me that she was in better health than she had been for years.

I know that surgeons in the past have displayed considerable apathy in adopting any active operative interference about the umbilicus, probably from a well-grounded supposition that operations in this region were almost invariably fatal. With the daily experiences derived from such operations as ovariotomy, etc., where the peritoneal cavity is opened, and the advantages of Listerism, such apathy must vanish; yet I hope the preceding remarks will not convey the impression that I would advocate a similar method of treatment in all cases of irreducible umbilical hernia. On the contrary, I am of opinion that only a few cases occur where the surgeon would feel himself justified in performing this operation. Moreover, I am quite cognizant of the fact that the experience of one case, no matter how satisfactory the result, is insufficient to arrive at any definite conclusion; yet I feel convinced that similar cases do exist where this operation, or some slight modification to meet the exigencies of individual cases, might advantageously be adopted and life saved. If my notes add one link to prove not only the feasibility, but, with careful attention to details, the hope of ultimate recovery, I shall rest contented that my efforts have been amply rewarded.

Rare Tumor of the Orbit.

To the Academy of Medicine in Ireland, Mr. STORY exhibited a tumor about the size of a small pea, which he had removed from the orbit of a girl aged twenty. It had existed from earliest childhood, and had lately increased in size. The tumor lay beneath the lower lid towards the inner canthus, was freely movable in all directions, strong and hard to the touch, and was covered by slightly discolored skin. When the patient stooped, laughed, cried, or took violent exercise, this patch of bluish dislocated skin swelled. When the superjacent soft parts were divided, the little tumor came out without further interference. On section it was found solid, and formed of a series of irregularly concentric layers, which microscopical examination showed to consist of fibrous tissue and calcified matter of an unknown origin, together with cellular conglomerations of an indefinite character. Nothing resembling either bone or cartilage existed in the tumor, its strong hardness being due to new calcification. He considered the tumor to be a phlebolith, the history of the case and the pathological appearances agreeing with that view as to its nature. The only tumor at all resembling it, hitherto described, was one removed by Fano, and described by that author as an arterio-fibro-cartilaginous growth. He condemned Fano's description of the tumor, which, he said, must have been also a phlebolith.

Mr. Abraham said he had examined the section prepared by Mr. Story, and believed that he had come to a correct conclusion as to the tumor being of the nature of a phlebolith. There was nothing bearing the form of cartilage-cells in the growth. It seemed to consist of a kind of low fibrous tissue, which had become calcified. The inside consisted of an irregular amorphous mass of unknown material.

Primary Syphilis of the Finger.

Dr. Chas. P. Russell thus writes in The *Jour. Cut. & Ven. Diseases*, for Aug. 1884:

On January 25, Mr. D., restaurant keeper, a large, heavily-built man, consulted me for a peculiar-looking sore upon the right index finger just under the nail. The appearance presented was that of a very shallow ulcer seated upon an inflamed indurated base. The amount of infiltration was so great as to give a bunchy appearance about the nail, and was out of all proportion to the size of the ulcer.

The patient stated that while opening oysters he pricked his finger with a piece of shell. The surface was thoroughly treated with nitrate of silver. He presented himself again in a few days, with the finger in the same condition as before; still considerable induration, and surface of sore not disposed to heal. Still regarding it as an irritated wound, the possibility of syphilitic inoculation did not suggest itself to me. A twenty grain to the ounce iodoform ointment was now applied on general principles, and under its persistent use for three weeks the surface healed, but left behind a clubby, misshapen finger-end.

Our patient did not show himself again until March 22, when he complained of a tired, languid feeling, anorexia, headache, and evening fever. His tongue was heavily coated. Still unsuspicious of syphilis, and thinking he might be troubled with a torpid liver, I prescribed the usual remedies, and followed them up with a tonic. He presented himself again on the 28th, saying that he felt better, but not all right yet. He now, in a rather unconcerned manner, directed my attention to an eruption upon the arms and neck.

This consists of numerous prominent dull-red papules, varying in size. The largest ones were found upon the neck, and a few here and there were inclined to scale. A more thorough examination disclosed the fact that the eruption was a generalized one. The outbreak was entirely of the papular form. There were no other lesions. Inquiry now elicited the fact that his throat had been sore for about three weeks. (It could not have troubled him much, as he had not spoken of it before.) The cervical and epitrochlear glands were slightly enlarged. The diagnosis of syphilis was now made, and the nature of the disease was explained to the patient. He admitted that about two weeks before he first presented himself, he had been fooling with a loose woman and had placed his finger in her vagina.

The finger undoubtedly became inoculated at the time, and the strangely obstinate sore was, in the light of what followed, plainly a true hard chancre, with more than the ordinary induration. Now, to take a retrospective glance, we have a sore which heals in three weeks under alterative applications, the induration remaining.

From the first indications of a sore up to the first cutaneous expression of the disease, we have a period of invasion of nine weeks. The malaise, cephalalgia, and slight elevation of temperature which preceded the eruption about a week, and which were mistaken for biliousness, were plainly due to the primary syphilitic fever.

This patient had a gonorrhœa and orchitis two years previously.

We sometimes learn from the mistakes of others. If the report of this interesting case shall teach my medical brethren to be on their guard, or throw any light upon the early recognition of the extra-genital chancre, it will perhaps have served a useful purpose.

Gangliar Disease of Joints.

Dr. Arthur I. Norton read a paper on this subject before the last meeting of the *British Medical Association*, and reported some cases from which it may be gathered that the following are the chief characteristics of this disease.

1. It is a disease which seems to occur almost invariably in elderly persons, or at any rate from thirty-five years upwards, though it does occur from time to time in children.

2. It is always a truly destructive disease, and for a certainty terminates in ulceration of the bones, preferably the small bones in the cases of the wrist and tarsus; the bones being rarefied and softened, and often in part absorbed, according to the length of time during which the disease has existed before the commencement of caries.

3. It is a disease which, I am inclined to believe, never allows improvement, though it may remain dormant for an indefinite period.

4. The synovial membrane is villous or granular, but never develops a mass of granulation-tissue, such as usually occurs in the chronic destructive arthritis of so-called strumous children, and which has been called spongy synovial membrane.

5. It is a disease of necessity associated with the formation of ganglions, either connected with the joint, or at a distance from the joint, and then not communicating.

6. It is a chronic disease, extending often over ten to fifteen years, or perhaps more.

7. It is not painful to the touch, is not accompanied by much pain, though there is often aching, and the patient then refuses to use the limb; and, after a time, the ligaments give way, and the hand (if wrist-joint) hangs, and cannot be lifted. When ulceration takes place with suppuration, then, of course, pain comes on, and the temperature rises.

8. When ulceration commences, it progresses very rapidly, all the bones being affected, and some completely disappearing.

9. It appears to arise spontaneously, and not to result from injury.

Diagnosis.—It may be diagnosed from either common ulceration of the cartilages, or from rheumatic disease, essentially by the presence of ganglions; in spongy synovial membrane, which is often recoverable by rest and appropriate treatment, the swelling and protrusion of the joint give a different sense to the touch, being fluid and not solid. In diagnosing from rheumatism, the ganglions must not be mistaken for the enlarged bursæ which occur in rheumatic cases.

Treatment.—Treatment is not satisfactory; it is a progressive disease. The ganglions must never be opened; they may be incised subcutaneously, or the fluid aspirated, and in like manner the fluid from the joint may be aspirated, the limb fixed upon a splint, and lotion of tincture of iodine (half a drachm of tincture of iodine, two drachms of glycerine, and one ounce of water), kept constantly applied. When the hand hangs, or the joint glides, there is no other course but

A Case of Traumatic Tetanus Cured by the Internal and Local Use of Sulphate of Morphine.

Dr. J. W. Strickler reports this case in the *Med. Record:* On June 4, 1884, I was called to see T—— J——, aged eight years. In attempting to cut some hay in one of the old-fashioned hay-cutters, he brought the knife down upon his left middle finger, about midway between the tip and the first joint. As the cut seemed to extend about half through the finger, I thought it would be wise to endeavor to save the part by carefully coapting the cut surfaces. To do this I inserted a few fine sutures. The wound, however, did not unite, suppuration causing the surfaces to separate. As it was manifestly useless to again attempt to save the end of the finger, I determined to amputate at the first joint. In this operation I was assisted by Dr. J. Y. Simpson. The flaps united quickly, and the boy did very well till June 18th, when he developed tetanoid symptoms. He had pain along the anterior attachment of the diaphragm and in his back, difficulty in swallowing, and spasmodic contractions of the muscles about his mouth. His lower extremities were at once placed in a hot mustard bath, hot poultices applied to his abdomen, and a mustard plaster to the back of his neck. He was then given, per orem, ♏x. of Magendie's solution of morphine, and wrapped in a blanket. The following day there were frequent contractions of the muscles of the face, throat, and trunk; pain in the epigastric region was quite distressing; swallowing of solid food was difficult; even water excited a mild spasm of the throat muscles. At this stage of the disease I asked Dr. Wm. Pierson to see the case, in consultation. He suggested the application to the part of poultices containing morphine (gr. j. each). He was also given twice daily (9 a. m. and 4 p. m.), twenty-five to thirty-five drops of Magendie's solution of morphine, per orem, the dose varying within the limits named, to suit the emergency of the case. Large flaxseed poultices were constantly applied to his back and abdomen, and he was carefully shielded from draughts. After beginning this treatment there was sufficient opisthotonos to make it possible to pass the hand and forearm between the bed and the patient's back. This condition lasted about seventy-two hours. The mouth at that time could not be opened wide enough to admit the index finger. His food consisted of milk and broths. Constipation was a troublesome complication, requiring the occasional use of croton-oil in one-drop doses.

By degrees the rigidity of the various muscles disappeared, the patient being restored by July 1st to a normal condition, so far as the use of the various parts of his body was concerned.

Acute Traumatic Malignancy.

Before the Academy of Medicine in Ireland, Mr. L. H. Ormsby read a paper on acute traumatic malignancy, and detailed the history, progress, and result of four instructive cases in connection with the subject. He endeavored to prove that a distinct group of malignant tumors, rapidly following local injury, may be classified under the term "acute traumatic malignancy," believing, as he did, that occasionally under the stimulus of severe local irritation the tissue elements which, under favorable circumstances, would assume only the necessary activity for healthy repair, might develop a more prolific cell formation, ending in a very rapid development of malignant disease belonging to either the sarcomatous or the carcinomatous formation. In his opinion, however, local irritation was not alone sufficient to account for the rapid development of such tumors, but he believed that it was an important factor when there was already an inherent tumor-forming diathesis present in the constitution, and the local irritation or injury was accidentally received.

Mr. Thomson, referring to the clinical aspect of the cases, said:—If there was an operation to be done at all, it should be done at such a distance from the seat of the disease as would render the possibility of its return as remote as possible. In the great majority of these cases the disease returned sooner or later. That evening a case was exhibited in which Mr. Stokes had nearly three years ago performed amputation at the hip-joint with a satisfactory result. The patient had been suffering from one of those tumors consequent on an injury to the thigh. After consultation the limb was amputated at the hip-joint. Though the patient was in an extremely low condition, the result was satisfactory, and so improved did he now appear that there was no indication of a return of the disease. Where the tumor existed in the tibia, the question was whether the patient should be subject to amputation at the hip-joint, or merely amputation through the shaft of the femur.

Mr. Ormsby, in reply, said the object all should of course aim at, would be to go as high as possible above the seat of the disease. He himself amputated at the upper third of the thigh, being afraid of subjecting the patient to the risk of amputation at the hip-joint. At the same time, Mr. Stokes' case was very encouraging.

A Case of Favus of the Hand.

Dr. George Thomas Jackson reports this case in the *Jour. Cut. and Ven. Diseases* for August, 1884:

George M., æt. 19, U. S., dry-goods clerk, presented himself for treatment at the Polyclinic on May 21, 1884, on account of an eruption upon his left hand. He is a man of good health, and of cleanly habits.

He stated that about one month ago a small red scaly spot appeared upon the lower and inner part of his left palm, which he picked at, and from there the eruption spread in a constantly-enlarging circle. About one week after the beginning of the disease, some red pimples appeared upon the inner edge of the hand, at the outer rim of the ring, which developed into raised crusts.

Present condition.—The eruption is upon the left hand alone, and presents a well-marked circular shape, the border or rim being formed of a series of vesicles which are not fully distended by their opaque contents. The ring turns round the inner edge of the hand, running for a short distance upon the back of the hand, and also extends up between the little and ring fingers almost to the second joint of the ring finger. Everywhere the rim of the ring is composed of well-defined vesicles, excepting where it approaches the back of the hand, and here are found four perfect and one imperfect favus crusts, grouped together, occupying the site of the just-mentioned pimples. They answer to the classical description of favus crusts, being sulphur-yellow cupped crusts, elevated above the level of the skin. The surface of the hand included in the ring is scaly, looking as if the epidermis had been roughed up; otherwise it is not much altered. Were it not for the presence of the crusts, it would be difficult to make the diagnosis from trichophytosis.

Being questioned as to the mode of his acquiring the disease, it was found that a great many mice were caught in his shop, upon the heads of which he had noticed some yellowish crusts. Subsequently he brought us three of these mice, which were fine specimens of favus.

The treatment consisted in painting the whole diseased surface with a ten-grain solution of the bichloride of mercury in alcohol, which was repeated twice at an interval of two days, and resulted in a complete cure.

Ascites Cured by a Single Paracentesis.

Dr. J. Geraghty reports this case in the *Brit. Med. Jour.*, Aug. 24, 1884: On January 25th, 1884, I tapped the abdomen of an unmarried female, suffering from ascites. I drew off twenty-five pints of a slightly yellowish non-albuminous fluid, specific gravity 1015. Up to the present time, now over six months, there has been no return of the dropsy. The patient, aged 29, has had no disease of the heart, lungs, liver, or kidneys. There is no history of acute or chronic peritonitis. Menstruation is regular. The urine is scanty, pale, but healthy. Her history previously to the appearance of the fluid, which she noticed for the first time two months before I saw her, was a good one. Since the age of 14, she worked in the open fields, seldom wearing boots or other covering on her feet; she frequently had to stand and walk for hours on wet ground, the water often reaching up to her knees.

When brought under my care, she presented a distressing state of helplessness and weakness; the abdomen appeared stretched to its fullest limits. The only thing peculiar about the treatment (some may call it unwise) was that I drained the last ounce of fluid from the peritoneal cavity, leaving the cannula in for two hours, plugging it with some cotton-wool. When I again removed the cotton-wool, turning the patient on her face, about two or three ounces of fluid came away. I sealed up the opening, after withdrawing the cannula, prescribed light nourishment, and gave a hypodermic injection of morphia, but no other medicine. The patient was out of bed on the fourth day, and at work and in the best of health ten days subsequently. I am not prepared to explain the cause of the large accumulation of fluid in this case. Perhaps the frequent exposure of the feet and legs to cold, by causing sudden and frequent determination of blood to the peritoneum, may have disturbed the balance between exhalation and absorption.

Secondary Suture of the Median Nerve.

From the *Lancet*, July 19, 1884, we learn that at a recent meeting of the Academy of Sciences M. Tillaux related two cases of secondary suture of the median nerve, followed by rapid restoration of the functions in the parts depending upon it. The first was a young girl who cut the front of her wrist whilst cleaning some windows in November, 1883. The wound healed without suture of the nerve being performed, and there remained complete paralysis of all the parts supplied by it. Incapable of working, the girl went to the Beaujon Hospital to seek relief. The parts supplied by the median nerve were found to be colder than on the opposite side, and of a slightly violet color. Notwithstanding the discouraging nature of the case, M. Tillaux decided to give the patient a chance. The ends of the nerve were found about a centimetre distant from one another, the central one bulbous, the peripheral atrophied. They were cut so as to present a fresh equal surface, and carefully drawn together by a hair suture (*crin de Florence*). An antiseptic dressing was applied and the limb immobilized in extreme flexion. Two days after the operation sensibility began to return, and increased daily. Six weeks later she left the hospital with sensibility and movement entirely restored. The other patient was a woman who, witnessing the result in this case, begged M. Tillaux to operate upon her also, notwithstanding that the accident had occurred fourteen years before. The operation was identical, and the next day sensibility began to return, and was soon entirely restored. The physiological curiosity of these cases lies in the fact that when examined microscopically (by M. Ranvier) the portions of nerve removed exhibited no trace of cylinder-axis, and that it is difficult to explain the restoration of function by our present ideas on the subject. M. Tillaux's observations may be the starting-point of an important discovery.

Subscapular Abscess.

Of this not very common affection, Dr. Hooper reports two cases in infants, in the *Boston M. and S. Jour.*, Aug. 14, 1884.

In the first case the scapula stood out at an angle with the chest-wall like a wing, and the pus worked its way into the pleural sac; in the other an operation was done to allow the pus to escape, and the child recovered.

Dr. F. Minot also reports two cases. The first looked like an effusion into the abdominal cavity, but an exploratory incision showed a collection of pus under the skin and over the abdominal fascia. The second was a young lady, twenty-two years old, whose health had always been good; noticed some pain in the upper part of the back, below the left shoulder, which was increased on motion of the arm. On examination a tumor was found just outside the edge of the scapula. It lay rather deeply, somewhat towards the axilla, at about the edge of the trapezius muscle. It was about as large as an egg, round, smooth, quite movable, and slightly tender. It was thought to be a fatty tumor, and an incision was made into the tissues over it extending through some fibres of the trapezius, when a sudden jet of pus showed the supposed tumor to be an abscess. An ounce of healthy pus was discharged through the enlarged opening. The abscess lay partly upon the lower portion of the scapula. The wound was brought together with sutures, a bit of rag being left in the lower part for drainage, and was completely healed in about ten days.

Large Steel Chip in the Vitreous Body; Removal, with Retention of Normal Vision.

A case illustrative of the value of the electro-magnet for the removal of iron or steel chips from within the eye is reported in the *Brit. Med. Jour.*, August 23, 1884, by Dr. P. H. Mules:

J. J., an ironworker, was struck on the left eye by a piece of metal; the chip penetrated the globe, unknown to the man, at the inner ciliary region, the wound being small and cleanly incised. There was no pain. Vision was unaffected. The ophthalmoscope showed a foreign body (presumably metal) at the bottom of the vitreous chamber. The patient, who applied the day after the accident, was at once admitted into the hospital, chloroform administered, and the sclera opened through the tendon of the inferior rectus; through this opening, an armature, or end of a powerful electro-magnet, was introduced. On withdrawal, a piece of soft steel was found attached, weighing one grain, the surface being as large as half a split pea. Both eyes were kept bandaged for a fortnight. There was no reaction; the wounds of entrance and exit healed readily. Vision was normal, and, six weeks from the date of the accident, he resumed full work, and has since (four months) remained free from the slightest discomfort.

A Vesical Calculus Voided by the Rectum.

Dr. J. F. McElroy reports the following case in the *American Practitioner* for August, 1884.

A colored boy, fifteen years old, had suffered for several years with symptoms of stone in the bladder. He was very weak and much emaciated. The urethra was too sensitive to allow the passage of a sound. I endeavored to improve his general health, and put him if possible in condition for an operation. A week after, while at stool, he passed by the rectum a mulberry-colored calculus two inches long, nearly an inch in its short diameter, and weighing a little under one ounce. A rectal examination revealed the opening between the bladder and the gut by which the stone had passed. The patient improved at once and rapidly, and in three months was well. While on his feet the urine came naturally by the urethra; when in the recumbent posture it came by the rectum. A year later the patient died of malarial fever.

The autopsy, made by Dr. McCormack and myself, revealed an opening between the bladder and rectum large enough to admit the finger. The walls of the bladder were thickened, and the mucous membrane of the rectum was much congested.

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